

STN search for  
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FILE 'CAPLUS' ENTERED AT 18:18:01 ON 03 NOV 2003  
L1 886 INTERFER? (8A) ((NITROGEN (2A) DIOXIDE) OR NO2)  
L2 877 INTERFER? (8A) ("NITROGEN DIOXIDE" OR NO2)  
L3 161 L2 AND ("SULFUR DIOXIDE" OR SO2)  
L4 8 L3 AND ELECTROCHEM?  
L5 89 ("NITROGEN DIOXIDE" OR NO2) (S) MOLYBDEN?  
L6 1 L5 AND INTERFER?  
L7 3113 (REMOV? OR CONVERT?) (5A) ("NITROGEN DIOXIDE" OR NO2)  
L8 116 L7 AND INTERFER?  
L9 38 L7 AND MOLYBDEN?

L3 ANSWER 1 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Monitoring of NO2 gas in air using piezoelectric crystals coated with amino-functional copolymers  
L3 ANSWER 2 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Method and apparatus for preventing nitrogen interference in pyro-electrochemical methods  
L3 ANSWER 3 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Gas-chromatographic determination of sodium formate in ambient air  
L3 ANSWER 4 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Measurement of gaseous hydrogen peroxide with a liquid core waveguide chemiluminescence detector  
L3 ANSWER 5 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Amperometric detection of gaseous formaldehyde in the ppb range  
L3 ANSWER 6 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Improvement of SO2 sensing properties of WO3 by noble metal loading  
L3 ANSWER 7 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Gas-phase sulfur intercomparison experiment 2: Analysis and conclusions  
L3 ANSWER 8 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Evaluation of an electrochemical method for continuous indoor monitoring of NO2 and nitrous acid  
L3 ANSWER 9 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Extractive spectrophotometric determination of trace sulfur dioxide in air  
L3 ANSWER 10 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Two-electrode PANi/Pt/Nafion/Pt electrochemical sensor for determination of chlorine concentration  
L3 ANSWER 11 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Development of an automated, simultaneous and continuous measurement system by using a diffusion scrubber coupled to ion chromatography for monitoring trace acidic and basic gases (HCl, HNO3, SO2 and NH3) in the atmosphere  
L3 ANSWER 12 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Deposition of particulate matter in diffusion tube samplers for the determination of NO2 and SO2  
L3 ANSWER 13 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI A continuous monitor-sulfur chemiluminescence detector (CM-SCD) system for the measurement of total gaseous sulfur species in air  
 L3 ANSWER 14 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI A novel mobile vertical-sounding system for ozone studies in the lower troposphere  
 L3 ANSWER 15 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Method to compensate for interferences to mercury measurement in gases  
 L3 ANSWER 16 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Intercomparison of six ambient [CH<sub>2</sub>O] measurement techniques  
 L3 ANSWER 17 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Detection of sulfur dioxide using a piezoelectric quartz crystal microbalance  
 L3 ANSWER 18 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Effect of sulfur and nitrogen compounds on the determination of H<sub>2</sub>S in air  
 L3 ANSWER 19 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Gas permeation continuous-flow coulometric analysis. Determination of sulfur dioxide  
 L3 ANSWER 20 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Method for detecting inferior cells in phosphoric acid fuel cell stacks  
 L3 ANSWER 21 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Cross sensitivity and stability of NO<sub>2</sub> sensors from WO<sub>3</sub> thin film  
 L3 ANSWER 22 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Performance test of ozone diffusive sampler  
 L3 ANSWER 23 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Determination of dimethyl disulfide in gas emissions from rubber industry plants  
 L3 ANSWER 24 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI A fully solid-state SO<sub>x</sub> (x = 2, 3) gas sensor utilizing Ag-β-alumina as solid electrolyte  
 L3 ANSWER 25 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Variable sensitive poplar varieties as base for the elaboration of the bioindication of ozone and sulfur dioxide concentrations  
 L3 ANSWER 26 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Method for the sampling and analysis of sulfur dioxide  
 L3 ANSWER 27 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI A fluorimetric method for the determination of atmospheric sulfur dioxide with 2',7'-dichlorofluorescein  
 L3 ANSWER 28 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Development of a monitoring tape for fluorescence detection of hydrogen chloride gas using 6,9-dichloro-2-methoxyacridine  
 L3 ANSWER 29 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Multispectral interference filters and their application to the design of compact non-dispersive infrared gas analyzers for pollution control  
 L3 ANSWER 30 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Evaluation of a system for monitoring SO<sub>2</sub> and NO<sub>2</sub> dry deposition fluxes  
 L3 ANSWER 31 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Evaluation of a personal data logging monitor for carbon monoxide  
 L3 ANSWER 32 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI TiO<sub>2</sub> thick-film gas sensors and their suitability for NO<sub>x</sub> monitoring

L3 ANSWER 33 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Sampling of nitrous acid in an automated denuder  
 L3 ANSWER 34 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Selective removal of interfering substances for the determination of nitrogen dioxide in air  
 L3 ANSWER 35 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Chemiluminescence from sulfur compounds in novel flame and discharge systems: proof of sulfur dioxide as the emitter in the new sulfur chemiluminescence detector  
 L3 ANSWER 36 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Selective ionophore-based optical sensors for ammonia measurement in air  
 L3 ANSWER 37 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Simplified determination method for sulfur dioxide in air by using a solid sorbent  
 L3 ANSWER 38 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Uncertainties in surface ozone trend at Hohenpeissenberg  
 L3 ANSWER 39 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Interferometric method and apparatus for simultaneous detection of various gases in a mixture  
 L3 ANSWER 40 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Continuous analyzer for sulfur dioxide [monitoring]  
 L3 ANSWER 41 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Colorimetric detector for ozone and method of preparation  
 L3 ANSWER 42 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI A new indirect spectrophotometric procedure for determination of sulfur dioxide  
 L3 ANSWER 43 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Study on eliminating the interference of inorganic gases in the iodimetric and rosaniline-colorimetric determination of sulfur dioxide  
 L3 ANSWER 44 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Measurement of the chemical species that contribute to urban haze  
 L3 ANSWER 45 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI 3-Methyl-2-benzothiazolinone acetone azine with 2-phenylphenol as a solid passive monitoring reagent for ozone  
 L3 ANSWER 46 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Effects of sulfur dioxide and nitrogen dioxide on shoot and root growth of Kennebec and Russet Burbank potato plants  
 L3 ANSWER 47 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Ion chromatographic determination of sulfur dioxide in foods  
 L3 ANSWER 48 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI An intercomparison of formaldehyde measurement techniques at ambient concentration  
 L3 ANSWER 49 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Chemiluminescence determination of formaldehyde in ambient air  
 L3 ANSWER 50 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Semicarbazide hydrochloride as an absorbing reagent for the fixation of atmospheric sulfur dioxide  
 L3 ANSWER 51 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Chemiluminescence method for the direct determination of sulfur dioxide

L3 ANSWER 52 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Interference spectrometry at selective modulation  
 L3 ANSWER 53 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Annular denuder method for sampling reactive gases and aerosols in the atmosphere  
 L3 ANSWER 54 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Atmospheric measurements of nitrogen dioxide with a sensitive luminol instrument  
 L3 ANSWER 55 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Colorimetric determination of atmospheric sulfur dioxide using 1,3,5-trinitrobenzene  
 L3 ANSWER 56 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Piezoelectric quartz crystal detection of ammonia using pyridoxine hydrochloride supported on a polyethoxylate matrix  
 L3 ANSWER 57 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Spectrophotometric determination of sulfite  
 L3 ANSWER 58 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Development of a manganese dioxide-coated, cylindrical denuder for removing nitrogen dioxide from atmospheric samples  
 L3 ANSWER 59 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Cerium(IV)-sulfite chemiluminescent system. Addition of sodium dodecyl sulfate for linearity improvement and interference reduction  
 L3 ANSWER 60 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI A new method for determination of sulfites in polluted waters  
 L3 ANSWER 61 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI 10,10'-Dimethyl-9,9'-biacridylidene impregnated film badge dosimeters for passive ozone sampling  
 L3 ANSWER 62 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Continuous determination of trace amounts of sulfite in aqueous solution by flow chemiluminescence method. Stabilization of sulfite with sodium formate  
 L3 ANSWER 63 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Spectrophotometric determination of nitrite  
 L3 ANSWER 64 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI 2,4-Dinitrophenylhydrazine-coated Florisil sampling cartridges for the determination of formaldehyde in air  
 L3 ANSWER 65 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Gaseous interference to performance of a quartz crystal aerosol mass monitor  
 L3 ANSWER 66 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI New solid-sorbent method for ambient nitrogen dioxide monitoring  
 L3 ANSWER 67 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Toxicity and spectrophotometric determination of sulfur dioxide in air using a new absorbing agent  
 L3 ANSWER 68 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Continuous measurement of ppb-level sulfur dioxide dissolved in water by flow chemiluminescence method  
 L3 ANSWER 69 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Dry deposition of acid precursors in the Netherlands  
 L3 ANSWER 70 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Toxicology of sulfur dioxide and its spectrophotometric determination in air using a new absorbing agent  
 L3 ANSWER 71 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI The new Toxicator sulfur dioxide  
 L3 ANSWER 72 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Monoethanolamine as an absorbing reagent for the spectrophotometric determination of atmospheric sulfur dioxide  
 L3 ANSWER 73 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Conductometric sensor for atmospheric carbon dioxide determination  
 L3 ANSWER 74 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI A field test for the detection and semiquantitative determination of sulfur dioxide in air and water  
 L3 ANSWER 75 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Interference of some trace gases with ozone measurements by the potassium iodide method  
 L3 ANSWER 76 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Effect of other gases on the determination of chlorine  
 L3 ANSWER 77 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI The development and application to detector tubes of a laboratory method to assess accuracy of occupational diesel pollutant concentration measurements  
 L3 ANSWER 78 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Rapid determination of sulfite ion by using detector tubes  
 L3 ANSWER 79 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Differential-pulse voltammetry of sulfur dioxide at the parts per 10<sup>9</sup> level in air  
 L3 ANSWER 80 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Measurement of ozone in air in the presence of sulfur dioxide and nitrogen oxides  
 L3 ANSWER 81 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Changes in the resistance of thin layers of silver in reactions with hydrogen sulfide under atmospheric conditions  
 L3 ANSWER 82 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Determination of hydrogen sulfide with sulfide ion-selective electrode by using known addition technique  
 L3 ANSWER 83 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Determination of atmospheric sulfur dioxide without tetrachloromercurate(II) and the mechanism of the Schiff reaction  
 L3 ANSWER 84 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Modification of a continuous analyzer of formaldehyde in ambient air  
 L3 ANSWER 85 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Determination of hydrogen sulfide in the air  
 L3 ANSWER 86 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Dobson spectrophotometer total ozone measurements errors caused by interfering absorbing species such as sulfur dioxide, nitrogen dioxide, and photochemically produced ozone in polluted air  
 L3 ANSWER 87 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Chemiluminescence method for the determination of nitrogen dioxide  
 L3 ANSWER 88 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Determination of atmospheric acrolein by fluorometric analysis  
 L3 ANSWER 89 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Hygienic chemical studies on air pollutants. I. Determination of sulfur dioxide in air by use of triethanolamine solution as an absorbent  
 L3 ANSWER 90 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Measurement of sulfur oxides and nitrogen oxides in the air  
 L3 ANSWER 91 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI New gas chromatographic detection of nitric oxide  
 L3 ANSWER 92 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI The effect of interfering compounds in the fluorescence detection of sulfur dioxide  
 L3 ANSWER 93 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Determination of nitrogen dioxide in the atmosphere  
 L3 ANSWER 94 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Ultraviolet spectrophotometric determination of sulfite with hydrobromic acid  
 L3 ANSWER 95 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI A stable free radical reagent and solid phase suitable for a nitric oxide dosimeter  
 L3 ANSWER 96 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Sensing sulfur oxides and other sulfur bearing pollutants with solid electrolyte pellets. I. Gas concentration cells  
 L3 ANSWER 97 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI The determination of sulfur dioxide air pollution. VI. The effect of interfering substances on the reliability of the determination of sulfur dioxide air pollution by the aspiration-colorimetric and coulographic methods  
 L3 ANSWER 98 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI The determination of sulfur dioxide air pollution. III. Comparison of the fluorimetric and the photometric determinations of low sulfur dioxide concentrations  
 L3 ANSWER 99 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Tentative method for the determination of carbon monoxide (detector tube method)  
 L3 ANSWER 100 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Analytical method for ozone in air  
 L3 ANSWER 101 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Determination of sulfur dioxide in stack gases by ultraviolet absorption spectrometry  
 L3 ANSWER 102 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Determination of sulfate ion in air. Interference problems and improvement of the barium chloride analysis method  
 L3 ANSWER 103 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Fluorescence determination of low formaldehyde concentrations in air by dye laser excitation  
 L3 ANSWER 104 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Determination of free sulfuric acid in atmospheric air  
 L3 ANSWER 105 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Spectrophotometric determination of atmospheric sulfur dioxide with 4-(4-aminophenylazo)-1-naphthylamine  
 L3 ANSWER 106 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

TI Atmospheric concentration of sulfur dioxide and sulfate aerosols over Antarctic, Subantarctic areas, and oceans

L3 ANSWER 107 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Determination of sulfur dioxide air pollution. I. Potentiometric method  
 L3 ANSWER 108 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Induced colorimetric method for carbon monoxide  
 L3 ANSWER 109 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Gas analysis by absorption spectrometry  
 L3 ANSWER 110 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Spectroscopic determination of sulfur dioxide using long absorption cell  
 L3 ANSWER 111 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Selective cartridges for removing interfering substances from a sulfur dioxide-containing sample gas stream  
 L3 ANSWER 112 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Rapid method for estimation of mean sulfur dioxide pollution using lead candles and atomic absorption spectrophotometry  
 L3 ANSWER 113 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Atomic absorption determination of elemental mercury collected from ambient air on silver wool  
 L3 ANSWER 114 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Electrolytic cell for determining sulfur dioxide in a fluid  
 L3 ANSWER 115 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Ambient and source sulfur dioxide detector based on a fluorescence method  
 L3 ANSWER 116 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Spectrophotometric determination of sulfite with mercuric thiocyanate and ferric ion  
 L3 ANSWER 117 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Determination of atmospheric sulfur dioxide by differential pulse polarography  
 L3 ANSWER 118 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Determination of acrolein in exhaust gases of gasoline and diesel engines by 4-hexylresorcinol  
 L3 ANSWER 119 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Automatic and continuous determination of sulfur dioxide  
 L3 ANSWER 120 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Errors in the determination of sulfur dioxide in the atmosphere by West-Gaeke method  
 L3 ANSWER 121 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Evaluation of the iron-o-phenanthroline procedure for determining sulfur dioxide in turbine exhaust gases  
 L3 ANSWER 122 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Determination of sulfur dioxide in ambient air by non-dispersive x-ray fluorescence  
 L3 ANSWER 123 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Improved ultraviolet spectrophotometric method for the determination of sulfur dioxide  
 L3 ANSWER 124 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Scrubber apparatus for selectively removing interferents from an ozone-bearing sample  
 L3 ANSWER 125 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Filter method for the measurement of atmospheric hydrogen sulfide

L3 ANSWER 126 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Direct quantitative analysis of water contents. Determination in gases and liquids

L3 ANSWER 127 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Intersociety committee methods for ambient air sampling and analysis. Tentative method of analysis for free chlorine content of the atmosphere (methyl orange method)

L3 ANSWER 128 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Characterization of organic solvents for electrochemical air pollution sensors

L3 ANSWER 129 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Tentative method for continuous monitoring of atmospheric oxidant with amperometric instruments

L3 ANSWER 130 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Fluorimetric determination of sulfur dioxide as sulfite

L3 ANSWER 131 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Feasibility study for the development of a multifunctional emission detector for nitrogen oxide, carbon monoxide, and carbon dioxide

L3 ANSWER 132 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Fluorescence determination of sub-parts-per-billion hydrogen sulfide in the atmosphere

L3 ANSWER 133 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Adaptation of Technicon AutoAnalyzer for continuous measurement while in motion

L3 ANSWER 134 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Determination of sulfite ion (or sulfur dioxide) by atomic absorption spectroscopy

L3 ANSWER 135 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Colorimetric determination of ozone by diacetyldihydrolutidine

L3 ANSWER 136 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Specific spectrophotometric determination of ozone in the atmosphere

L3 ANSWER 137 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Spectrophotometric determination of atmospheric sulfur dioxide

L3 ANSWER 138 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Selected methods for the measurement of air pollutants. Determination of NO<sub>2</sub> and NO

L3 ANSWER 139 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Measurement of NO<sub>2</sub> in the atmosphere

L3 ANSWER 140 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Continuous monitoring of traces of SO<sub>2</sub> in air on the basis of discoloration of the starch-iodine reagent with prior elimination of interfering compounds

L3 ANSWER 141 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Some applications of coulometry to industrial hygiene analysis

L3 ANSWER 142 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI The determination of very low fluoride concentrations in the atmosphere

L3 ANSWER 143 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Nitrite interference in spectrophotometric determination of atmospheric SO<sub>2</sub>

L3 ANSWER 144 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Absorption tube for removal of interfering sulfur dioxide in analysis of atmospheric oxidant

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TI Spectrophotometric determination of SO<sub>2</sub> suitable for atmospheric analysis  
 L3 ANSWER 146 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Determination of particulate acid in town air  
 L3 ANSWER 147 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Nitrogen dioxide detection using a coulometric method  
 L3 ANSWER 148 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Elimination of nitrogen dioxide interference in the determination of sulfur dioxide  
 L3 ANSWER 149 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Ozone and nitrogen dioxide in an urban atmosphere  
 L3 ANSWER 150 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Sodium diphenylaminesulfonate as an analytical reagent for ozone  
 L3 ANSWER 151 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Determination of nitrites and nitrogen dioxide with 4- aminoazobenzene-1-naphthylamine  
 L3 ANSWER 152 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI A new spectrophotometric method for the determination of acrolein in combustion gases and in the atmosphere  
 L3 ANSWER 153 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Colorimetric method for continuous recording analysis of atmospheric fluoride: test chamber and interference studies with the Mini-Adak Analyzer  
 L3 ANSWER 154 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI A spectrophotometric method for the determination of mercaptans in air  
 L3 ANSWER 155 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Spectrophotometric determination of olefins in concentrated sulfuric acid  
 L3 ANSWER 156 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Extraction and absorptiometric determination of uranium as thiocyanate  
 L3 ANSWER 157 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Fixation of sulfur dioxide as disulfitomercurate(II) and subsequent colorimetric estimation  
 L3 ANSWER 158 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI A new spot test for the detection of sulfites and sulfur dioxide  
 L3 ANSWER 159 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Report on bromate method for determination of arsenic in foods  
 L3 ANSWER 160 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI A new method for detecting nitric acid and nitrates  
 L3 ANSWER 161 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Tests of an iodine pentoxide indicator for carbon monoxide

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L3 ANSWER 2 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
 ACCESSION NUMBER: 2003:203324 CAPLUS  
 DOCUMENT NUMBER: 138:214694  
 TITLE: *Method and apparatus for preventing nitrogen interference in pyro-electrochemical methods*  
 INVENTOR(S): Rhodes, John R.

PATENT ASSIGNEE(S): Spector Analytical Instruments, USA

SOURCE: U.S. Pat. Appl. Publ., 14 pp., Cont.-in-part of U.S. Ser. No. 951,760.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT NO. KIND DATE APPLICATION NO. DATE

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US 2003049855 A1 20030313 US 2002-55726 20020123  
US 2003049854 A1 20030313 US 2001-951760 20010911  
WO 2003023364 A2 20030320 WO 2002-US28967 20020911  
WO 2003023364 A3 20030731

PRIORITY APPLN. INFO.: US 2001-951760 A2 20010911

US 2002-55726 A 20020123

AB Methods and app. are described for preventing nitrogen interference in the detection of a substance. In particular, it relates to new methods and app. for preventing interference due to nitrogen in pyro-electrochem. methods for measuring substances, for example sulfur content, contained within liqs. such as petroleum products and beverages. One preferred app. and method comprises a catalytic converter or thermal converter to selectively remove the nitrogen-contg. interferant, for example NO<sub>2</sub>, in the pyrolyzed gas stream to NO without affecting the sulfur content. A 2nd preferred app. and method comprises a chem. scrubber to selectively remove the nitrogen-contg. interferant from the gas stream without affecting the sulfur content.

L3 ANSWER 6 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2001:450709 CAPLUS

DOCUMENT NUMBER: 135:70161

TITLE: Improvement of SO<sub>2</sub> sensing properties of WO<sub>3</sub> by noble metal loading

AUTHOR(S): Shimizu, Y.; Matsunaga, N.; Hyodo, T.; Egashira, M.

CORPORATE SOURCE: Faculty of Engineering, Department of Materials Science and Engineering, Nagasaki University, Nagasaki, 852-8521, Japan

SOURCE: Sensors and Actuators, B: Chemical (2001), B77(1-2), 35-40

CODEN: SABCEB; ISSN: 0925-4005

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB SO<sub>2</sub> sensing properties of several semiconductor metal oxides were investigated in the temp. range of 100-800.degree.. Each oxide exhibited complex temp.- and time-dependent SO<sub>2</sub> response. Among the oxides tested, WO<sub>3</sub> exhibited the highest SO<sub>2</sub> sensitivity at 400.degree., accompanied by a resistance increase, but its resistance decreased in SO<sub>2</sub> at temps. >500.degree.. To improve the SO<sub>2</sub> sensitivity of WO<sub>3</sub>, effect of a metal addn. was also tested. Among the metals tested, the addn. of 1.0 wt.% Ag was most effective for improving the sensitivity at 450.degree.. In the case of the 1.0-Ag/WO<sub>3</sub>, however, the sensor resistance decreased in SO<sub>2</sub> over the whole temp. range studied. Thus, the addn. of Ag led to changes in both the surface states of SO<sub>2</sub>-related adsorbates and the electronic interactions between the adsorbates and WO<sub>3</sub>. The

resistance increase of WO<sub>3</sub> upon exposure to SO<sub>2</sub> at 400.degree. was suggested to arise from the formation of SO<sub>2</sub>- at sites different from those for oxygen adsorbates, while the resistance increase of 1.0-Ag/WO<sub>3</sub> at 450.degree. from the formation of SO<sub>4</sub><sup>2-</sup> on the Ag loaded due to the reaction of a gaseous SO<sub>2</sub> mol. and 2 Oad<sup>2-</sup> ions on the Ag. Interference from NO<sub>2</sub> to the SO<sub>2</sub> sensitivity was found to be more significant in the case of 1.0-Ag/WO<sub>3</sub>. REFERENCE COUNT: 17

L4 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2001:473384 CAPLUS

DOCUMENT NUMBER: 135:146446

TITLE: Amperometric detection of gaseous formaldehyde in the ppb range

AUTHOR(S): Knake, R.; Jacquinot, P.; Hauser, P. C.

CORPORATE SOURCE: Department of Chemistry, The University of Basel, Basel, 4056, Switz.

SOURCE: Electroanalysis (2001), 13(8-9), 631-634

CODEN: ELANEU; ISSN: 1040-0397

PUBLISHER: Wiley-VCH Verlag GmbH

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The direct amperometric detection of low levels of formaldehyde in the gas phase with an acidic electrochem. cell based on a gold coated Nafion membrane as working electrode was studied. The sensor was found to show a linear response from the detection limit of 13 ppb up to at least 10 ppm. Influences of the flow rate and the humidity of the gas stream were studied. Also detd. were the cross-sensitivities to a no. of org. and inorg. gases. A new approach to overcome the interferences from NO, NO<sub>2</sub> and SO<sub>2</sub> is proposed whereby formaldehyde is selectively adsorbed from the sample stream with an aluminum oxide filter. By forming the difference for the measurements with and without filter a net signal for formaldehyde could be obtained in presence of the interferants. REFERENCE COUNT: 34

L4 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2000:424970 CAPLUS

DOCUMENT NUMBER: 133:47870

TITLE: Evaluation of an electrochemical method for continuous indoor monitoring of NO<sub>2</sub> and nitrous acid

AUTHOR(S): Kelly, Thomas J.; Myers, Jeffrey D.; Spicer, Chester W.

CORPORATE SOURCE: Battelle, Columbus, OH, 43201-2693, USA

SOURCE: Measurement of Toxic and Related Air Pollutants, Proceedings of a Specialty Conference, Cary, NC, United States, Sept. 1-3, 1998 (1998), Volume 2, 615-620. Air & Waste Management Association: Pittsburgh, Pa.

CODEN: 69AAKD

DOCUMENT TYPE: Conference

LANGUAGE: English

AB Continuous real-time detn. of NO<sub>2</sub> and HNO<sub>2</sub> was achieved using a small, com.-available electrochem. NO<sub>2</sub> sensor. This sensor uses a proprietary electrode design that provides detection levels of <10 ppbv. The sensor also exhibits sensitivity to HNO<sub>2</sub> that

is a factor of 3-5 higher than that for NO<sub>2</sub>. Based on these sensors, 3 prototype continuous NO<sub>2</sub>/HNO<sub>2</sub> monitors were constructed, using a carbonate-coated filter to selectively remove HNO<sub>2</sub> from sample air. Thus, HNO<sub>2</sub> is measured by difference. Each prototype monitor is 12 in. wide times 4.5 in. high times 7 in. deep, and weighs approx. 8 lb. These monitors were evaluated in lab. and field tests for linearity, sensitivity, chem. interference, stability, accuracy relative to conventional NO<sub>2</sub> measurements, temp. and humidity dependence, and reliability. Interferences tested included NO, CO, CO<sub>2</sub>, SO<sub>2</sub>, O<sub>3</sub>, NH<sub>3</sub>, HNO<sub>3</sub>, peroxyacetyl nitrate, and formaldehyde. The monitors are sensitive, reliable, and have minimal interferences. NO<sub>2</sub> and HNO<sub>2</sub> data in continuous field measurements were highly correlated with those from a conventional monitor; HNO<sub>2</sub> data in particular show close quant. agreement. REFERENCE COUNT: 5

L4 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1999:533478 CAPLUS

DOCUMENT NUMBER: 131:178943

TITLE: Two-electrode PAni/Pt/Nafion/Pt electrochemical sensor for determination of chlorine concentration

AUTHOR(S): Chou, Tse-Chuan; Li, Hann-Feng; Chen, Nan-Ming; Ling, Tzong-Rong

CORPORATE SOURCE: Department of Chemical Engineering, National Cheng Kung University, Tainan, 701, Taiwan

SOURCE: Proceedings - Electrochemical Society (1999), 99-23 (Chemical Sensors IV), 83-92

CODEN: PESODO; ISSN: 0161-6374

PUBLISHER: Electrochemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB An electrochem. sensor for detn. of Cl concn. was developed by impregnation-redn. of Pt and then electro-polymn. of aniline on solid polymer electrolyte (SPE) to prep. PAni/Pt/Nafion/Pt electrode. The current response of the electrode was examd. by step change of Cl in a flowing gas system. The prepn. conditions of the PAni/Pt/Nafion/Pt electrode including impregnation concn. of Pt-soln., concn. of reducing agent HBO<sub>4</sub>, and its pH were optimized. Meanwhile, the conducting polymer polyaniline was coated on the electrode by electropolymn., which was taken place by cyclic voltammograms (CV) in a monomer soln. including the aniline and H<sub>2</sub>SO<sub>4</sub>. The cycle times and scanning rates allowed to obtain the max. response current. The potential windows of Cl gas on the electrode were detd. The interference of the gases, NO<sub>2</sub>, SO<sub>2</sub>, CO<sub>2</sub> and Cl<sub>2</sub>, on the Cl sensing were estd., also the interference of humidity was studied.

REFERENCE COUNT: 11

L4 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1996:547843 CAPLUS

DOCUMENT NUMBER: 125:255484

TITLE: A fully solid-state SO<sub>x</sub> (x = 2, 3) gas sensor utilizing Ag-beta"-alumina as solid electrolyte

AUTHOR(S): Yang, Jianhua; Yang, Pinghua; Meng, Guangyao

CORPORATE SOURCE: Shanghai Inst. Ceramics, Shanghai, 200050, Peop. Rep. China

SOURCE: Sensors and Actuators, B: Chemical (1996), B31(3), 209-212  
CODEN: SABCEB; ISSN: 0925-4005

PUBLISHER: Elsevier

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A galvanic-cell-type SO<sub>2</sub> and SO<sub>3</sub> gas sensor with Ag-beta."-Al<sub>2</sub>O<sub>3</sub> solid electrolyte, porous Pt as working electrode and Ag as ref. electrode has been constructed and tested. The emf. (e.m.f.) responses are in good agreement with theor. values for SO<sub>x</sub> concns. from 10 to 104 ppm in the temp. range 550-750.degree.C. The exptl. results show that CO<sub>2</sub> and NO<sub>2</sub> did not interfere the measurement of SO<sub>x</sub>.

L4 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1982:432872 CAPLUS

DOCUMENT NUMBER: 97:32872

TITLE: Effect of other gases on the determination of chlorine

AUTHOR(S): Khamrakulov, T. K.; Khalikov, A. N.; Agasyan, P. K.

CORPORATE SOURCE: USSR

SOURCE: Deposited Doc. (1980), SPSTL 442khp-D80, 6 pp.

Avail.: SPSTL

DOCUMENT TYPE: Report

LANGUAGE: Russian

AB The possibility of using HgCl<sub>2</sub>, Hg(ClO<sub>4</sub>)<sub>2</sub>, natural rubber, Mg(ClO<sub>4</sub>)<sub>2</sub>, and CaCl<sub>2</sub> as sorbents for eliminating the interference of SO<sub>2</sub>, H<sub>2</sub>S, NO<sub>2</sub>, O<sub>3</sub>, and unsatd. hydrocarbons in the detn. of Cl<sub>2</sub> with an electrochem. sensor was studied. None of these sorbents were suitable since Cl was also sorbed by them.

L4 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1971:429728 CAPLUS

DOCUMENT NUMBER: 75:29728

TITLE: Scrubber apparatus for selectively removing interferents from an ozone-bearing sample

INVENTOR(S): Neti, Radhakrishna, M.

PATENT ASSIGNEE(S): Beckman Instruments, Inc.

SOURCE: U.S., 4 pp.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

PATENT NO. KIND DATE APPLICATION NO. DATE

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US 3579305 A 19710518 US 1968-747721 19680725

PRIORITY APPLN. INFO.: US 1968-747721 19680725

AB A solid-phase scrubber contg. alkali metal or alk. earth hydroxide, esp. Ca(OH)<sub>2</sub> or KOH, and also contg. HgCl<sub>2</sub> or AgNO<sub>3</sub>, as well as either CaCl<sub>2</sub>, P<sub>2</sub>O<sub>5</sub>, or anhyd. Ca(SO<sub>4</sub>)<sub>2</sub>, removed from a gas stream the species which interfered with the subsequent O<sub>3</sub> detn. in the stream with an electrochem. gas analyzer such as that of P. A. Hersch

(U.S. 3,314,864). The interfering species included NO<sub>2</sub>, Cl, Br, hydrogen halides, SO<sub>2</sub>, H<sub>2</sub>S, mercaptans, and NH<sub>3</sub>.

L4 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1970:490962 CAPLUS

DOCUMENT NUMBER: 73:90962

TITLE: Characterization of organic solvents for electrochemical air pollution sensors

AUTHOR(S): Chand, Ramesh; Cunningham, Philip R.

CORPORATE SOURCE: Dynasci. Corp., Chatsworth, CA, USA

SOURCE: IEEE Transactions on Geoscience Electronics (1970), 8(3), 158-61

CODEN: IEGEAO; ISSN: 0018-9413

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Sweep voltammetric curves detd. at a sample gas temp. of 80.degree. showed that gamma.-butyrolactone-KPF<sub>6</sub>, DMF-KPF<sub>6</sub>, formamide-KPF<sub>6</sub> electrolyte systems (contg. 0.5-0.75 m KPF<sub>6</sub>) were suitable for electrochem. SO<sub>2</sub> sensors. The electrolyte system 1,2-propanediol cyclic carbonate-KPF<sub>6</sub> was suitable for sensing oxides of N. In the sensor employing formamide-KPF<sub>6</sub> electrolyte, only SO<sub>2</sub> would be oxidized if the sensing electrode was subjected to a potential of .ltoreq.0.9 V. For 1,2-propanediol cyclic carbonate-KPF<sub>6</sub>, the oxidn. currents at 0.70 V were 232 and 17.2 mA/cm<sup>2</sup> for NO<sub>2</sub> and NO, resp., and there was practically no interference from SO<sub>2</sub>.

L3 ANSWER 24 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1996:547843 CAPLUS

DOCUMENT NUMBER: 125:255484

TITLE: A fully solid-state SO<sub>x</sub> (x = 2, 3) gas sensor utilizing Ag-.beta."-alumina as solid electrolyte

AUTHOR(S): Yang, Jianhua; Yang, Pinghua; Meng, Guangyao

CORPORATE SOURCE: Shanghai Inst. Ceramics, Shanghai, 200050, Peop. Rep. China

SOURCE: Sensors and Actuators, B: Chemical (1996), B31(3), 209-212

CODEN: SABCEB; ISSN: 0925-4005

PUBLISHER: Elsevier

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A galvanic-cell-type SO<sub>2</sub> and SO<sub>3</sub> gas sensor with Ag-.beta."-Al<sub>2</sub>O<sub>3</sub> solid electrolyte, porous Pt as working electrode and Ag as ref. electrode has been constructed and tested. The emf. (e.m.f.) responses are in good agreement with theor. values for SO<sub>x</sub> concns. from 10 to 104 ppm in the temp. range 550-750.degree.C. The exptl. results show that CO<sub>2</sub> and NO<sub>2</sub> did not interfere the measurement of SO<sub>x</sub>.

L3 ANSWER 25 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1995:833024 CAPLUS

DOCUMENT NUMBER: 124:14255

TITLE: Variable sensitive poplar varieties as base for the elaboration of the bioindication of ozone and sulfur dioxide concentrations

AUTHOR(S): Bruecker, Josef

CORPORATE SOURCE: Inst. Angew. Botanik, Univ.-Gesamthochsch. Essen,  
Essen, D-45117, Germany

SOURCE: Verhandlungen der Gesellschaft fuer Oekologie (1995), 24, 255-8

CODEN: VGOEDK; ISSN: 0171-1113

PUBLISHER: Gesellschaft fuer Oekologie

DOCUMENT TYPE: Journal

LANGUAGE: German

AB Poplar varieties (*Populus nigra* and hybrids) were investigated with regard to their use as bioindicators for O<sub>3</sub> and SO<sub>2</sub> under controlled conditions in climate and cultivation chambers. Both varieties were exposed to NO<sub>2</sub>, elevated CO<sub>2</sub>, different light intensities, and different water and nutrient supplies to examine the influence of these abiotic factors on O<sub>3</sub> and SO<sub>2</sub> indication. *Populus nigra* responds to both noxious substances with leaf abscission after elevated myoinositol content relative to total sol. carbohydrates in leaf stalks. The hybrids show essential reactions only for SO<sub>2</sub>; CO<sub>2</sub> and NO<sub>2</sub> do not interfere. However, both varieties react also with enhanced myoinositol formation and leaf abscission under conditions of extreme soil dryness and extreme under- or over-provision of nutrients.

L3 ANSWER 26 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1995:572651 CAPLUS

DOCUMENT NUMBER: 123:16334

TITLE: Method for the sampling and analysis of sulfur dioxide

AUTHOR(S): Shanthi, K.; Balasubramanian, N.

CORPORATE SOURCE: Dep. Chem., Indian Inst. Technology, Madras, 600 036, India

SOURCE: Fresenius' Journal of Analytical Chemistry (1995), 351(7), 685-6

CODEN: FJACES; ISSN: 0937-0633

PUBLISHER: Springer

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A sensitive spectrophotometric method for the detn. of SO<sub>2</sub> after fixation in a trapping soln. of NaOH-citrate is described. The method is based on the redox reaction of SO<sub>2</sub> with bromate in acid medium to liberate Br, which brominates 2',7'-dichlorofluorescein; the brominated product is then measured at 535 nm in an org. phase. The absorption characteristics of the trapping soln. developed and applications are also described. The relative std. deviation is 3.8% (10 µg SO<sub>2</sub>). Interferences by NO<sub>2</sub> and H<sub>2</sub>S were eliminated.

L3 ANSWER 34 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1993:433300 CAPLUS

DOCUMENT NUMBER: 119:33300

TITLE: Selective removal of interfering substances for the determination of nitrogen dioxide in air

AUTHOR(S): Zygmunt, Bogdan; Chrzanowski, Wojciech; Janicki,

Waclaw; Namiesnik, Jacek

CORPORATE SOURCE: Dep. Anal. Chem., Tech. Univ., Gdansk, Pol.

SOURCE: Chemia Analityczna (Warsaw, Poland) (1992), 37(6), 719-27

CODEN: CANWAJ; ISSN: 0009-2223

DOCUMENT TYPE: Journal

LANGUAGE: English

AB CrO<sub>3</sub> (Korbl catalyst) and Ag wool were used for removal of oxidizing and reducing substances interfering with the detn. of NO<sub>2</sub> in air. The reducing substances such as SO<sub>2</sub>, and H<sub>2</sub>S were successfully removed by CrO<sub>3</sub>, and both oxidizers and reducers were retained on the Korbl catalyst and on Ag wool. The optimum working conditions for the filters were detd.

L3 ANSWER 37 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1991:252926 CAPLUS

DOCUMENT NUMBER: 114:252926

TITLE: Simplified determination method for sulfur dioxide in air by using a solid sorbent

AUTHOR(S): Matsumura, Toshiro; Takeda, Hiroaki; Osada, Eiji

CORPORATE SOURCE: Natl. Inst. Hyg. Sci., Tokyo, 158, Japan

SOURCE: Ryusan to Kogyo (1990), 43(4), 47-51

CODEN: RYUSAZ; ISSN: 0370-8047

DOCUMENT TYPE: Journal

LANGUAGE: Japanese

AB A solid sorbent sampler was developed for personal monitoring of SO<sub>2</sub> in air. Silica gel powder (40-70 mesh) impregnated with triethanolamine was filled into a glass tube, air was sampled at a flow rate of 0.2 L/min for 24 h, SO<sub>2</sub> was desorbed with water, and detd. by the Ba chloranilate method. The collection and recovery of SO<sub>2</sub> onto and from the impregnated silica gel was quant. Interferences by Cl<sup>-</sup>, Br<sup>-</sup>, NO<sub>3</sub>, H<sub>3</sub>PO<sub>4</sub>, F<sup>-</sup>, HCO<sub>3</sub><sup>-</sup>, NO<sub>2</sub><sup>-</sup> and I<sup>-</sup> were examd., but in real air sampling, no significant interference by other gases was found. Comparison of the present method with the para-rosaniline method showed good agreement between the two techniques. The precision of the detn. by the present method was 1.9%. This method indicated personal exposure levels of SO<sub>2</sub> in residences 5-22 ppb (vol.) in general.

L3 ANSWER 39 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1991:114305 CAPLUS

DOCUMENT NUMBER: 114:114305

TITLE: Interferometric method and apparatus for simultaneous detection of various gases in a mixture

INVENTOR(S): Fortunato, Gerard; Laurent, Dominique

PATENT ASSIGNEE(S): Societe Nationale Elf Aquitaine (SNEA), Fr.

SOURCE: Ger. Offen., 7 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

PATENT NO. KIND DATE APPLICATION NO. DATE

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DE 3939359 A1 19900531 DE 1989-3939359 19891124

FR 2639711 A1 19900601 FR 1988-15456 19881125



FR 2639711 B1 19921231  
JP 02184741 A2 19900719 JP 1989-306395 19891124  
PRIORITY APPLN. INFO.: FR 1988-15456 19881125  
AB The method and app. are described, where NO<sub>2</sub>, SO<sub>2</sub>, NO, H<sub>2</sub>S, CO, CO<sub>2</sub>, and N<sub>2</sub>O are detected in a gas mixt., these gases having a quasiperiodic absorption structure.

L3 ANSWER 40 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
ACCESSION NUMBER: 1990:445476 CAPLUS  
DOCUMENT NUMBER: 113:45476  
TITLE: Continuous analyzer for sulfur dioxide [monitoring]  
AUTHOR(S): Vecera, Zbynek; Mikuska, Pavel; Janak, Jaroslav; Opekar, Frantisek; Trojanek, Antonin  
CORPORATE SOURCE: Ustav Anal. Chem., CSAV, Brno, 611 42, Czech.  
SOURCE: Chemicke Listy (1990), 84(3), 316-20  
CODEN: CHLSAC; ISSN: 0009-2770  
DOCUMENT TYPE: Journal  
LANGUAGE: Czech  
AB A continuous analyzer for SO<sub>2</sub> in the atm. is based on absorption by a polydisperse aerosol of demineralized water and conductometric detn. in a film of condensate. The fully automated app. is calibrated with air passing through a permeation source of SO<sub>2</sub>, base-line checking with air passing through a charcoal filter, flushing, equilibration, and measurement over selectable periods of anal. The signal is evaluated at 16-s intervals and is displayed in .mu.g SO<sub>2</sub>/m<sup>3</sup> or transmitted in analog or digital form. Interference by CO<sub>2</sub>, NH<sub>3</sub>, NO, and N<sub>2</sub>O<sub>4</sub> + NO<sub>2</sub> is discussed. The relative error is .+-.5 and .+-.2% for 10 and 900 .mu.g/m<sup>3</sup>, resp.

L3 ANSWER 43 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
ACCESSION NUMBER: 1990:61870 CAPLUS  
DOCUMENT NUMBER: 112:61870  
TITLE: Study on eliminating the interference of inorganic gases in the iodimetric and rosaniline-colorimetric determination of sulfur dioxide  
AUTHOR(S): Xie, Yuxiang  
CORPORATE SOURCE: Guangzhou Ist. Nonferrous Met., Guangzhou, Peop. Rep. China  
SOURCE: Huanjing Kexue (1989), 10(5), 55-8  
CODEN: HCKHDV; ISSN: 0250-3301  
DOCUMENT TYPE: Journal  
LANGUAGE: Chinese

AB In detg. SO<sub>2</sub> in air by iodometric or rosaniline-colorimetric methods, Cl, O<sub>3</sub>, H<sub>2</sub>S, NO<sub>2</sub>, and HCl are removed from air samples by adsorption on cotton treated in a AcOH soln. of Ag cupferron to eliminate the interference of the gases.

L3 ANSWER 65 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
ACCESSION NUMBER: 1984:556660 CAPLUS  
DOCUMENT NUMBER: 101:156660  
TITLE: Gaseous interference to performance of a quartz crystal aerosol mass monitor

AUTHOR(S): Kim, C. S.; Eldridge, M. A.; Lewars, G. A.  
CORPORATE SOURCE: Mt. Sinai Med. Cent., Univ. Miami, Miami Beach, FL,  
33140, USA

SOURCE: Journal of Aerosol Science (1984), 15(4), 473-82

CODEN: JALSB7; ISSN: 0021-8502

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The response characteristics of a quartz crystal aerosol mass monitor (QCAM) to gaseous material have been examd. with 3 pollutant gases: O<sub>3</sub>, NO<sub>2</sub>, and SO<sub>2</sub>; O<sub>3</sub>(0.5 and 2.0 ppm) and NO<sub>2</sub>(0.5 and 1.0 ppm) did not affect the base frequency of the crystals in QCAM. SO<sub>2</sub> (1.0 and 3.0 ppm) caused a significant increase in frequency change ( $\Delta f$ ) and the change was increased with increasing SO<sub>2</sub> concn., showing that the rates of increase was 17  $\pm$  1 and 23  $\pm$  1 Hz/min for dry SO<sub>2</sub> of 1 and 3 ppm, resp. The SO<sub>2</sub>-induced  $\Delta f$  was further increased with increasing humidity; 58 and 100% increase from the  $\Delta f$  values caused by dry gas stream at relative humidities of 40 and 80%, resp. With sensor crystals preloaded with particles, the effect of SO<sub>2</sub> was reduced for all the particles tested, but the extent of the redn. was variable, depending upon the kind of particle material. Contrary to SO<sub>2</sub>, NO<sub>2</sub> caused a significant increase in  $\Delta f$  with some particles. These results indicate that NO<sub>2</sub> and SO<sub>2</sub> gases in the concn. ranges tested would cause an overestimation of aerosol concn. of up to an order of 100  $\mu\text{g}/\text{m}^3$ .

L3 ANSWER 74 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1983:27023 CAPLUS

DOCUMENT NUMBER: 98:27023

TITLE: A field test for the detection and semiquantitative determination of sulfur dioxide in air and water

AUTHOR(S): Chaube, Abha; Gupta, V. K.

CORPORATE SOURCE: Dep. Chem., Ravishankar Univ., Raipur, 492 010, India

SOURCE: Journal of the Indian Chemical Society (1982), 59(9), 1106-7

CODEN: JICSAH; ISSN: 0019-4522

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A spot-test technique for the detection and semiquant. detn. of SO<sub>2</sub> in air and water is based on reacting SO<sub>2</sub> with malonyldihydrazide, Zn(OAc)<sub>2</sub>, and Na nitroprusside to form a very intense brick-red ppt. The detection limit is 0.2 ppm SO<sub>2</sub>. Carbonate, Cl<sup>-</sup>, sulfate, NH<sub>3</sub>, NO<sub>3</sub><sup>-</sup>, NO<sub>2</sub><sup>-</sup>, and phosphate do not interfere. S<sup>2-</sup> interference can be eliminated by passing the air sample through HgCl<sub>2</sub> soln.

L3 ANSWER 78 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1982:62248 CAPLUS

DOCUMENT NUMBER: 96:62248

TITLE: Rapid determination of sulfite ion by using detector tubes

AUTHOR(S): Goshima, Fumiaki; Ichihara, Izumi

CORPORATE SOURCE: Fac. Educ., Gifu Univ., Gifu, Japan

SOURCE: Bunseki Kagaku (1981), 30(12), 796-800

CODEN: BNSKAK; ISSN: 0525-1931

DOCUMENT TYPE: Journal

LANGUAGE: Japanese

AB A detector tube for the rapid detn. of SO<sub>3</sub>- was prepd. Cellulose powder was impregnated with 0.2% Na-cellulose and then soaked in a mixed soln. of 0.05% malachite green-Magdala Red. After 10 min the colored cellulose powder was filtered by suction and dried at 100.degree.. A glass tube (1.8-mm inner diam.) to 11 cm was filled with the powder and both ends of the tube were plugged with cotton stoppers. When the detector tube was soaked in a SO<sub>3</sub>- sample soln., the color changed from bluish purple to pink. SO<sub>3</sub>- (10-100 ppm) could be detd. by measuring the length of the pink zone. The variation coeff. was 6.7% at 0.20 mg SO<sub>2</sub>/5 mL. S<sub>2</sub>O<sub>7</sub>-, S<sub>2</sub>-, S<sub>2</sub>O<sub>4</sub>- and NO<sub>2</sub>- interfered

L3 ANSWER 79 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1981:467099 CAPLUS

DOCUMENT NUMBER: 95:67099

TITLE: Differential-pulse voltammetry of sulfur dioxide at the parts per 109 level in air

AUTHOR(S): Rigo, A.; Cherido, M.; Argese, E.; Viglino, P.; Dejak, C.

CORPORATE SOURCE: Inst. Phys. Chem., Univ. Venice, Venice, Italy

SOURCE: Analyst (Cambridge, United Kingdom) (1981), 106(1261), 474-8

CODEN: ANALAO; ISSN: 0003-2654

DOCUMENT TYPE: Journal

LANGUAGE: English

AB SO<sub>2</sub> was detd. in air by differential-pulse polarog. after collection in a NaOH soln. The relative std. deviation was 4% for 2 .times. 10-7M SO<sub>2</sub> solns. NO<sub>2</sub>- interference was eliminated by addn. of Ph<sub>2</sub>NH. For example, for a gas phase contg. an estd. concn. of SO<sub>2</sub> of 38.2 .times. 10-7M, 37.0 .times. 10-7M was detd.

L3 ANSWER 92 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1978:196730 CAPLUS

DOCUMENT NUMBER: 88:196730

TITLE: The effect of interfering compounds in the fluorescence detection of sulfur dioxide

AUTHOR(S): Graham, L. D.

CORPORATE SOURCE: Beckman Instrum., Inc., Fullerton, CA, USA

SOURCE: Jt. Conf. Sens. Environ. Pollut., [Conf. Proc.], 4<sup>th</sup> (1978), Meeting Date 1977, 112-16. ACS: Washington, D. C.

CODEN: 38AVAQ

DOCUMENT TYPE: Conference

LANGUAGE: English

AB SO<sub>2</sub> detn. by fluorescence anal. suffers from interfering compds., e.g., CO, CO<sub>2</sub>, NO, NO<sub>2</sub>, hydrocarbons, arom. hydrocarbons, and polynuclear aroms. Techniques to isolate, and remove, and test interferents are described.

L3 ANSWER 96 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1977:522050 CAPLUS

DOCUMENT NUMBER: 87:122050

TITLE: Sensing sulfur oxides and other sulfur bearing pollutants with solid electrolyte pellets. I. Gas concentration cells

AUTHOR(S): Chamberland, Andre M.; Gauthier, J. Michel

CORPORATE SOURCE: Mater. Sci. Dep., Hydro-Quebec Inst. Res., Varennes, QC, Can.

SOURCE: Atmospheric Environment (1967-1989) (1977), 11(3), 257-61

CODEN: ATENBP; ISSN: 0004-6981

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A solid electrolyte cell comprising a pellet of K<sub>2</sub>SO<sub>4</sub> with the plane ends coated with Pt was used as a sensor to measure the concns. of SO<sub>2</sub>, H<sub>2</sub>S, MeSH [74-93-1], and COS in air in the range 0.1 to 10,000 ppm; when the partial pressure of the pollutant varied, a variation in emf. was induced. CO<sub>2</sub>, CH<sub>4</sub>, NO, and NO<sub>2</sub> did not interfere.

L3 ANSWER 107 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1974:429088 CAPLUS

DOCUMENT NUMBER: 81:29088

TITLE: Determination of sulfur dioxide air pollution. I. Potentiometric method

AUTHOR(S): Kabrt, Lubomir; Sucha, Ladislav

CORPORATE SOURCE: Dep. Anal. Chem., Inst. Chem. Technol., Prague, Czech.

SOURCE: Sbornik Vysoke Skoly Chemicko-Technologicke v Praze,

H: Analyticka Chemie (1973), H9, 145-57

CODEN: SVSABU; ISSN: 0556-5294

DOCUMENT TYPE: Journal

LANGUAGE: English

AB SO<sub>2</sub>, oxidized by a 0.6% H<sub>2</sub>O<sub>2</sub> (0.2M KCL) absorption soln. to H<sub>2</sub>SO<sub>4</sub>, is detd. by potentiometric titrn. with an 0.004N Na<sub>2</sub>B<sub>7</sub>O<sub>7</sub> std. soln. to pH 4.50 to give reproducible results (Sr. apprx. 1%) within the range of 2-20  $\mu$ equiv. SO<sub>2</sub>. The accuracy of the detn. of >10  $\mu$ equiv. SO<sub>2</sub> is  $\pm$  0.5%. The greatest errors are the presence of interfering substances (SO<sub>3</sub>, NO<sub>2</sub>, HCl, and NH<sub>3</sub>) and the reproducibility of the air sampling. The solns. used are stable for several weeks if protected from the atm.

L3 ANSWER 110 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1974:103561 CAPLUS

DOCUMENT NUMBER: 80:103561

TITLE: Spectroscopic determination of sulfur dioxide using long absorption cell

AUTHOR(S): Fujiwara, Kitao; Fuwa, Keiichiro

CORPORATE SOURCE: Dep. Agric. Chem., Univ. Tokyo, Tokyo, Japan

SOURCE: Bunseki Kagaku (1973), 22(12), 1616-18

CODEN: BNSKAK; ISSN: 0525-1931

DOCUMENT TYPE: Journal

LANGUAGE: Japanese

AB The use of long absorption cells, 50, 100, and 150 cm long, is recommended. for rapid and sensitive detn. of SO<sub>2</sub> by uv absorption. A Hitachi 207 at. absorption

spectrophotometer was modified to accommodate these cells. The std. gas dild. with N was introduced into the cell. N was used as the ref. gas. At 207 nm, the absorption was linearly proportional to the SO<sub>2</sub> concn. in the range 0.2-15 ppm almost independently of the flow rate of sample gas through the cell. Vapors of several org. solvents and NO<sub>2</sub> interfered with the absorption at 207 nm. The Mg 2025-ANG. line emitted from a Mg hollow cathode lamp can also be used as the light source.

L3 ANSWER 111 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1974:87092 CAPLUS

DOCUMENT NUMBER: 80:87092

TITLE: Selective cartridges for removing interfering substances from a sulfur dioxide - containing sample gas stream

INVENTOR(S): Niklas, Paul

SOURCE: Ger. (East), 3 pp.

CODEN: GEXXA8

DOCUMENT TYPE: Patent

LANGUAGE: German

PATENT NO. KIND DATE APPLICATION NO. DATE

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DD 97493 Z 19730514 DD 1972-162205 19720411

PRIORITY APPLN. INFO.: DD 1972-162205 19720411

AB H<sub>2</sub>S, Cl, and NO<sub>2</sub> interfere in the coulometric titrn. of SO<sub>2</sub>. The contaminants are removed by passing the gas through cartridges contg. an absorbent, which is either disposable or refillable, and can be selected to remove particular impurities. NH<sub>2</sub>SO<sub>3</sub>H absorbed on silica gel reacts with NO<sub>2</sub> forming H<sub>2</sub>SO<sub>4</sub>, N, and H<sub>2</sub>O, Cl reacts with a dye forming colorless products, and CuSO<sub>4</sub> removes H<sub>2</sub>S. Complete decolorization indicates spent reagents. Silica gel of porous 1 mm particles is soaked in a NH<sub>2</sub>SO<sub>3</sub>H, 4% soln. in distd. H<sub>2</sub>O, and the wet grains are treated with Na<sup>4</sup>-

(dimethylamino)azobenzene-4-sulfonate, 60 mg/100 ml. distd. H<sub>2</sub>O. The air-dried material is poured into glass tubes and held in position with glass wool. Another part of the tube, or another tube, is filled with silica gel acidified with NH<sub>2</sub>SO<sub>3</sub>H and then soaked in a CuSO<sub>4</sub> soln. The materials remove the impurities with >99% efficiency without appreciable alteration of the SO<sub>2</sub> concn. in the gas sample.

L3 ANSWER 114 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1973:532655 CAPLUS

DOCUMENT NUMBER: 79:132655

TITLE: Electrolytic cell for determining sulfur dioxide in a fluid

INVENTOR(S): Dahms, Harald

SOURCE: U.S., 9 pp.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

PATENT NO. KIND DATE APPLICATION NO. DATE

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US 3756923 A 19730904 US 1970-93752 19701130

PRIORITY APPLN. INFO.: US 1968-718032 19680402

US 1969-841745 19690715

AB The app. for measuring .ltoreq.100 ppm SO<sub>2</sub> is based on an electrolytic cell with 10-5-0.1M Ag in pH 1.5-6 phosphate buffer as the electrolyte. A potential of 0.01-0.5 V was applied between 2 electrodes, and the current was measured to det. SO<sub>2</sub>. Either the electrolyte is sepd. from the sample by a SO<sub>2</sub>-permeable membrane, e.g. silicone rubber, Teflon, or fluorosilicone, and is in contact with a Pt, Au, or graphite electrode, or it flows through a porous electrode, e.g. Pt deposited on microporous fritted glass, while the sample flows along the outside of the electrode. The sensitivity is .ltoreq.0.005 ppm SO<sub>2</sub>. The response time is <1 min. CO, NO<sub>2</sub>, or O<sub>3</sub>, 50 ppm, do not interfere. The cell can be used to monitor SO<sub>2</sub> pollution in air and to analyze combustion products in the detn. of S in org. compds.

L3 ANSWER 137 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1968:15789 CAPLUS

DOCUMENT NUMBER: 68:15789

TITLE: Spectrophotometric determination of atmospheric sulfur dioxide

AUTHOR(S): Scaringelli, F. P.; Saltzman, B. E.; Frey, S. A.

CORPORATE SOURCE: Natl. Center for Air Pollution Control, U.S. Dept. of Health, Educ. and Welfare, Cincinnati, OH, USA

SOURCE: Analytical Chemistry (1967), 39(14), 1709-19

CODEN: ANCHAM; ISSN: 0003-2700

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Two improved pararosaniline (I) methods are developed for the. spectrophotometric detn. of SO<sub>2</sub> in ambient air which give adherence to Beer's law for 0-35 .mu.g. SO<sub>2</sub> and 4.9% standard deviations. The I dye is purified by BuOH-extns. of the violet impurity from aq. solns. of I in N HCl. The i soln. is standardized spectrophotometrically at 540 m.mu.. For the SO<sub>2</sub> anal., H<sub>3</sub>PO<sub>4</sub> is used to control the final pH, to aid in liberating SO<sub>2</sub> from its Hg complex, and to eliminate interferences from heavy metals. The interference of NO<sub>2</sub> is eliminated by the addn. of sulfamic acid prior to the addn. of the chromogenic reagents, as suggested by Pate, et al. (CA 63: 7554h). The accuracy of the methods is increased also by using larger vols. of reagents at lower concns. than conventionally used in the West and Gaeke procedure (CA 51: 11930h). In one method, the final color is developed at pH 1.6 +/- 0.1 and absorbance is measured at 548 m.mu. (47,700 molar absorptivity). Alternatively, the color is developed at pH 1.2 +/- 0.1 and absorbance measured at 575 m.mu. (37,000 molar absorptivity). Since the reagent blank exhibits a temp. coeff. of 0.015 absorbance unit/.degree.C., a const.-temp. bath is recommended for best results. Since the standard SO<sub>3</sub><sup>2-</sup> solns. are unstable, the SO<sub>3</sub><sup>2-</sup> soln. is standardized by adding excess I and back-titrating with Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>, then immediately dilg. with 0.04M K tetrachloromercurate for the calibration procedure. EDTA is used to mask the heavy metals Fe, Cr, Cu, V, and Mn. 26 references.

L3 ANSWER 143 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1965:441940 CAPLUS

DOCUMENT NUMBER: 63:41940

ORIGINAL REFERENCE NO.: 63:7554h,7555a

TITLE: Nitrite interference in spectrophotometric determination of atmospheric SO<sub>2</sub>

AUTHOR(S): Pate, John B.; Ammons, Blair E.; Swanson, Glenda A.; Lodge, James P., Jr.

CORPORATE SOURCE: Natl. Center for Atm. Res., Boulder, CO

SOURCE: Anal. Chem. (1965), 37(7), 942-5

CODEN: ANCHAM; ISSN: 0003-2700

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Several methods for elimination of NO<sub>2</sub>-interference were evaluated. Results indicated that a stable oxidn. product of sulfamic acid is formed which has a high potential for either combining with Na tetrachloromercurate to form a compd. which will not react with pararosaniline, or which reacts directly with the product of pararosaniline and the CH<sub>2</sub>O adduct of SO<sub>2</sub> to form a new uncolored compd. The West-Gaeke procedure modified to use bleached pararosaniline and 0.5 ml. of 1.2% sulfamic acid added to the sample prior to analysis is recommended.

L3 ANSWER 144 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1965:427100 CAPLUSDOCUMENT NUMBER: 63:27100

ORIGINAL REFERENCE NO.: 63:4857d-f

TITLE: Absorption tube for removal of interfering sulfur dioxide in analysis of atmospheric oxidant

AUTHOR(S): Saltzman, Bernard E.; Wartburg, Arthur F., Jr.

CORPORATE SOURCE: U.S. Dept. of Health, Educ., & Welfare, Cincinnati, OH

SOURCE: Anal. Chem. (1965), 37(6), 779-82

CODEN: ANCHAM; ISSN: 0003-2700

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Various absorbants were examd. in a flow system for removing SO<sub>2</sub> from a mixt. with O<sub>3</sub> without concurrent loss of the O<sub>3</sub>. Best results were obtained with glass fiber paper impregnated with a soln. of 2.5 g. of CrO<sub>3</sub> and 0.7 ml. of concd. H<sub>2</sub>SO<sub>4</sub> per 15 ml. of aq. solution. After impregnation, the sheets were dried at 80-90.degree. for 1 hr. or until they turned pink. A certain conditioning time was required before O<sub>3</sub> was no longer appreciably absorbed. The above concn. of CrO<sub>3</sub> required the shortest conditioning time. Although the H<sub>2</sub>SO<sub>4</sub> concn. was not crit., high concns. caused the paper to be hygroscopic which sometimes resulted in O<sub>3</sub> losses. Because the CrO<sub>3</sub> absorber is capable of oxidizing almost all of the NO to NO<sub>2</sub>, giving a pos. interference of about 10%, a different absorbent was developed to eliminate the interference of N oxides. This consisted of 5 g. of silica gel satd. with 10 ml. of a 0.4M Na<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub>-0.72M H<sub>2</sub>SO<sub>4</sub> soln. and then dried at 120.degree. for several hrs. On use the silica gel became damp with the result that the initial 99% absorption of 4 ppm. of NO<sub>2</sub> dropped to only 9%. Because moisture is usually a problem in field operations, this mixt. was not satisfactory for continuous use but it is useful for intermittent application or for lab. studies. In practice if there is enough NO present to necessitate a correction, the concn. of O<sub>3</sub> is negligible.

L3 ANSWER 148 OF 161 CAPLUS COPYRIGHT 2003 ACS on STN  
ACCESSION NUMBER: 1962:466200 CAPLUS  
DOCUMENT NUMBER: 57:66200  
ORIGINAL REFERENCE NO.: 57:13184f  
TITLE: Elimination of nitrogen dioxide interference in the determination of sulfur dioxide  
AUTHOR(S): West, Philip W.; Ordoveza, Fe  
CORPORATE SOURCE: Louisiana State Univ., Baton Rouge  
SOURCE: Anal. Chem. (1962), 34, 1324-5  
CODEN: ANCHAM; ISSN: 0003-2700  
DOCUMENT TYPE: Journal  
LANGUAGE: Unavailable  
AB Addn. of 0.06% sulfamic acid to 0.1M Na tetrachloromercurate(II) used as an absorbing soln. for SO2 from the atm. immediately destroys any NO2 present.

=> d 15 ti 1-89

L5 ANSWER 1 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Antiwear lubricant composition containing phosphorus, molybdenum and hydroxy-substituted dithiocarbamates  
L5 ANSWER 2 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Molecular Level Study of the Formation and the Spread of MoO3 on Au (111) by Scanning Tunneling Microscopy and X-ray Photoelectron Spectroscopy  
L5 ANSWER 3 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Advances in aftertreatment technology for diesel vehicle's exhaust gas  
L5 ANSWER 4 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Method and system for monitoring combustion source emissions  
L5 ANSWER 5 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Production of nitric oxide using a pulsed arc discharge  
L5 ANSWER 6 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Surface ozone and precursor gases at Gadanki (13.5.degree.N, 79.2.degree.E), a tropical rural site in India  
L5 ANSWER 7 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Selective NO2 gas sensing characteristics of sol-gel prepared MoO3-WO3 thin films  
L5 ANSWER 8 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Synthesis, electronic and chemical properties of MoOx clusters on Au(111)  
L5 ANSWER 9 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Gas sensing properties of sol-gel fabricated mixed oxide MoO3-WO3 films  
L5 ANSWER 10 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
TI An exploratory study of diesel soot oxidation with NO2 and O2 on supported metal oxide catalysts  
L5 ANSWER 11 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Medical applications using pulsed power technology  
L5 ANSWER 12 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Investigation of MoO3-WO3 thin film microstructure for gas sensing applications



L5 ANSWER 13 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Physical properties of sputtered molybdenum oxide thin films suitable for gas sensing applications

L5 ANSWER 14 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Study on calibration curve of absorptiometry

L5 ANSWER 15 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Selective oxidation of methane in CH<sub>4</sub>-O<sub>2</sub>-NO<sub>2</sub> over MoO<sub>3</sub>

L5 ANSWER 16 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Sensors for oxidizing gases

L5 ANSWER 17 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Ti-W-O and Mo-W-O thin films deposited by reactive sputtering as gas sensors

L5 ANSWER 18 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Semiconductor MoO<sub>3</sub>-TiO<sub>2</sub> thin film gas sensors

L5 ANSWER 19 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Mechanism of O<sub>3</sub> and NO<sub>2</sub> detection and selectivity of In<sub>2</sub>O<sub>3</sub> sensors

L5 ANSWER 20 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI The catalytic effect of Mo on the properties of SnO<sub>2</sub>-based thin film sensors

L5 ANSWER 21 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Sol-gel prepared MoO<sub>3</sub>-TiO<sub>2</sub> thin films for CO and NO<sub>2</sub> gas sensing

L5 ANSWER 22 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Process and apparatus for decomposition of halogen-containing organic compounds

L5 ANSWER 23 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Method of making trifluoromethoxybenzenes from (trihalomethoxy)benzenes and hydrogen fluoride

L5 ANSWER 24 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Stabilized zirconia-based electrochemical sensors attached with oxide electrode for detection of NO or NO<sub>2</sub>

L5 ANSWER 25 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Production of nitric monoxide using pulsed discharges for a medical application

L5 ANSWER 26 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Chemistry of NO<sub>2</sub> on Mo(110). Decomposition reactions and formation of MoO<sub>2</sub>

L5 ANSWER 27 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Preparation and characterization of SnO<sub>2</sub> and MoO<sub>x</sub>-SnO<sub>2</sub> nano-sized powders for thick film gas sensors: surface chemistry and electrical response to NO<sub>2</sub>

L5 ANSWER 28 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Gas sensing properties of nano-sized MoO<sub>3</sub> thin films

L5 ANSWER 29 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Treatment of nitrogen oxide-containing waste gases

L5 ANSWER 30 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Characterization of materials for gas sensors. Surface chemistry of SnO<sub>2</sub> and MoO<sub>x</sub>-SnO<sub>2</sub> nano-sized powders and electrical responses of the related thick films

L5 ANSWER 31 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Lithium secondary battery anode materials and lithium secondary batteries

L5 ANSWER 32 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Vapor-phase nitration of benzene over solid acid catalysts (1): Nitration with nitrogen oxide (NO<sub>2</sub>). [Erratum to document cited in CA130:111804]

L5 ANSWER 33 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Preparation of hexagonal MoO<sub>3</sub> by "Chimie Douce" reaction with NO<sub>2</sub>

L5 ANSWER 34 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Preparation and characterization of SnO<sub>2</sub> and MoO<sub>x</sub>-SnO<sub>2</sub> nano-sized powders for thick film gas sensors

L5 ANSWER 35 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI FT-IR study of the nature and stability of NO<sub>x</sub> surface species on ZrO<sub>2</sub>, VO<sub>x</sub>/ZrO<sub>2</sub> and MoO<sub>x</sub>/ZrO<sub>2</sub> catalysts

L5 ANSWER 36 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Relevant examples of intercalation-deintercalation processes in solid state chemistry: application to oxides

L5 ANSWER 37 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Vapor-phase nitration of benzene over solid acid catalysts. (1). Nitration with nitric oxide (NO<sub>2</sub>)

L5 ANSWER 38 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI kkkandkPressure dependence of secondary ion emission from selected 3d, 4d, and 5d transition metals under N<sub>2</sub>O, NO, and NO<sub>2</sub>

L5 ANSWER 39 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Thin-film gas sensor implemented on a low-power-consumption micromachined silicon structure

L5 ANSWER 40 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI MoO<sub>3</sub>-based sputtered thin films for fast NO<sub>2</sub> detection

L5 ANSWER 41 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI In<sub>2</sub>O<sub>3</sub> and MoO<sub>3</sub>-In<sub>2</sub>O<sub>3</sub> thin film semiconductor sensors: interaction with NO<sub>2</sub> and O<sub>3</sub>

L5 ANSWER 42 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Novel amorphous MoW<sub>20</sub>O<sub>20</sub> and MoW<sub>8</sub>O<sub>11</sub> sensors made photochemically at room temperature for sub-ppm NO<sub>2</sub> detection

L5 ANSWER 43 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI NO<sub>2</sub>-NH<sub>3</sub>-O<sub>2</sub> reaction over TiO<sub>2</sub> based catalysts

L5 ANSWER 44 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Online Analysis of Stable Isotopes of Nitrogen in NH<sub>3</sub>, NO, and NO<sub>2</sub> at Natural Abundance Levels

L5 ANSWER 45 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI New synthetic routes for preparing perovskites. Electrochemical oxidation and oxidation by NO<sub>2</sub>

L5 ANSWER 46 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Vapor phase nitration of benzene over solid acid catalysts, (1): Nitration with nitrogen dioxide (NO<sub>2</sub>)

L5 ANSWER 47 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Modeling for the active site nitrate reductase. Oxidation of the complex [MoVO(O<sub>2</sub>CC(S)CH<sub>3</sub>Ph)<sub>2</sub>]- by nitrate and nitrite in methanol

L5 ANSWER 48 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Four-Coordinate Molybdenum Chalcogenide Complexes Relevant to Nitrous Oxide N-N Bond Cleavage by Three-Coordinate Molybdenum(III): Synthesis, Characterization, Reactivity, and Thermochemistry

- L5 ANSWER 49 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Determination of nitrogen, phosphorus, and Escherichia coli in rivers
- L5 ANSWER 50 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI The safety of a nitric oxide inhalation system with high frequency oscillatory ventilation
- L5 ANSWER 51 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Removal of H<sub>2</sub>S and recovery of sulfur from gas streams by chemical absorption using 12-molybdosilicic acid solution
- L5 ANSWER 52 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI The effect of anodic inhibitors on the pitting potential and corrosion current of Mo-electrode in mixed solutions
- L5 ANSWER 53 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Investigation of catalytic reduction and filter techniques for simultaneous measurements of NO, NO<sub>2</sub> and HNO<sub>3</sub>
- L5 ANSWER 54 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Spectrophotometric determination of hydrogen peroxide with 2-(5-bromo-2-pyridylazo)-5-(N-propyl-N-sulfopropylamino)phenol- molybdenum(VI), or 2-(5-nitro-2-pyridylazo)-5-(N-propyl-N- sulfopropylamino)phenol-vanadium(V) in the presence or absence of surfactant
- L5 ANSWER 55 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Synthesis and characterization of molybdenum(V)-oxo complexes with ONO-donors
- L5 ANSWER 56 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Removal of NO<sub>x</sub> by absorption with molybdenum blue solution
- L5 ANSWER 57 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Reactivity of peroxo complexes of molybdenum (VI) towards nitric oxide. (Part 2)
- L5 ANSWER 58 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Reactivity of peroxo complexes of molybdenum(VI) towards nitric oxide
- L5 ANSWER 59 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Selective reduction of para-substituted diphenyl disulfides catalyzed by a sulfided NiMo supported on alumina catalyst
- L5 ANSWER 60 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Surface tension of salt solutions
- L5 ANSWER 61 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Synthesis and characterization of molybdenum and tungsten nitrite complexes of the type [M(NO<sub>2</sub>)<sub>2</sub>(CO)<sub>2</sub>(PPh<sub>3</sub>)<sub>2</sub>]
- L5 ANSWER 62 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI An effect synthesis of 4-oxo-2,5-hexadienoates via DELTA.2-isoxazoline intermediates
- L5 ANSWER 63 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Process for producing catalysts for synthesis of unsaturated aldehydes and unsaturated carboxylic acids
- L5 ANSWER 64 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Reactions of metal oxide anions
- L5 ANSWER 65 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Nitrogen fixation in soybean treated with nitrogen dioxide and molybdenum
- L5 ANSWER 66 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN

TI Photochemistry of molybdenum(V) tetraphenylporphyrin studied by laser flash photolysis: light-induced homolysis of the molybdenum-oxygen bond of oxoalkoxo- and oxo(nitrito)molybdenum(V) tetraphenylporphyrin  
 L5 ANSWER 67 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Formation kinetics of molybdenum trioxide in the system molybdenum( $\tau$ )-nitrogen dioxide(gas)  
 L5 ANSWER 68 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Study of reactions of chromium and molybdenum atoms in shock waves  
 L5 ANSWER 69 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Interaction of molybdenum disulfide with nitric acid  
 L5 ANSWER 70 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Photochemical dissociation of water by abiogenic photoautotrophs  
 L5 ANSWER 71 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Molybdenum carbide as catalyst for conversion of nitrogen dioxide to nitric oxide  
 L5 ANSWER 72 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Interaction of molybdenite with nitric acid  
 L5 ANSWER 73 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Catalyst for reducing nitrogen dioxide to nitric oxide  
 L5 ANSWER 74 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Catalyst for conversion of nitrogen dioxide to nitrogen oxide  
 L5 ANSWER 75 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Device and methods for producing nitrogen oxides  
 L5 ANSWER 76 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI High-resolution Auger electron spectroscopy of chemisorbed forms (ammonia, nitrogen, oxygen, nitric oxide, nitrogen dioxide) on different metal surfaces (molybdenum, iron, tungsten, and palladium)  
 L5 ANSWER 77 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Kinetics of the oxidation of the alloy MR-47VP by nitrogen dioxide  
 L5 ANSWER 78 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Reaction of nitrogen oxides with  $\pi$ -allyl complexes: a model for propylene oxidation  
 L5 ANSWER 79 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Catalyst for conversion of nitrogen dioxide into nitrogen monoxide  
 L5 ANSWER 80 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Catalyst for conversion of nitrogen dioxide into nitrogen monoxide  
 L5 ANSWER 81 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Aromatic o-hydroxyaldehydes and o-hydroxyketones  
 L5 ANSWER 82 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Kinetics and mechanism of the nitrogen(IV) oxidation of molybdenum(V)  
 L5 ANSWER 83 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Determination of nitrogen dioxide, nitric oxide, and ammonia in their gas mixture  
 L5 ANSWER 84 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Producing ultra-fine metal oxides  
 L5 ANSWER 85 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Hexafluorides of molybdenum, tungsten, and uranium. III. Reactions with nitrogen dioxide and nitrogen oxyhalides

L5 ANSWER 86 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Reactions of molybdenum, tungsten, and uranium hexafluorides with nitrogen compounds. III. Nitrogen dioxide and nitrogen oxyhalides  
L5 ANSWER 87 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
TI The chemistry of rare and scattered elements  
L5 ANSWER 88 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Colorimetric method for the analysis of large amounts of determinable components  
L5 ANSWER 89 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Preparation of rhenium concentrates. I. The separation, identification, and determination of rhenium in indigenous molybdenite

L6 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS on STN  
ACCESSION NUMBER: 1987:218806 CAPLUS  
DOCUMENT NUMBER: 106:218806  
TITLE: Molybdenum carbide as catalyst for conversion of nitrogen dioxide to nitric oxide  
AUTHOR(S): Liu, Changlin  
CORPORATE SOURCE: Beijing Polytech. Univ., Beijing, Peop. Rep. China  
SOURCE: Huanjing Huaxue (1986), 5(6), 30-3  
CODEN: HUHADB; ISSN: 0254-6108  
DOCUMENT TYPE: Journal  
LANGUAGE: Chinese  
AB A Mo<sub>2</sub>C-contg. catalyst quant. converted NO<sub>2</sub> to NO in air at 150.degree.; the presence of 3 mg/m<sup>3</sup> NH<sub>3</sub> did not interfere in the conversion. The catalyst activity remained const. for 2000 h in a test.

L8 ANSWER 1 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Method and apparatus for preventing nitrogen interference in pyro-electrochemical methods  
L8 ANSWER 2 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Development and application of gas-sensing technologies for combustion  
L8 ANSWER 3 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Study of removal reagents for interference of nitrite on the dissolved oxygen determination  
L8 ANSWER 4 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Continuous measurement of semivolatile fine particulate mass in Provo, Utah  
L8 ANSWER 5 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Development of a NO<sub>2</sub> scrubber for accurate sampling of ambient levels of terpenes  
L8 ANSWER 6 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
TI NO<sub>x</sub> sensor for exhaust gases  
L8 ANSWER 7 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Sensing performance on the mixed potential type NO<sub>x</sub> sensor using oxide electrode  
L8 ANSWER 8 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Investigation into the performance of an ultra-fast response NO analyser equipped with a NO<sub>2</sub> to NO converter for gasoline and diesel exhaust NO<sub>x</sub> measurements  
L8 ANSWER 9 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN

TI Methods and apparatus for determination of chlorophenols in waste gases  
 L8 ANSWER 10 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI New total-NO<sub>x</sub> sensor based on mixed potential for automobiles  
 L8 ANSWER 11 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Simultaneous determination of SO<sub>2</sub> and NO<sub>x</sub> concentrations by ultraviolet spectrophotometry  
 L8 ANSWER 12 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Measurements of PAN in the polluted boundary layer and free troposphere using a luminol-NO<sub>2</sub> detector combined with a thermal converter  
 L8 ANSWER 13 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Experimental study of reaction mechanism of NO<sub>x</sub> removal by impulse high voltage discharges  
 L8 ANSWER 14 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Differences in nitric oxide synthase activity in a macrophage-like cell line, RAW264.7 cells, treated with lipopolysaccharide (LPS) in the presence or absence of interferon- $\gamma$  (IFN- $\gamma$ ): possible heterogeneity of iNOS activity  
 L8 ANSWER 15 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Assessment of the use of electrochemical sensors in the detection of nitrogen-containing exergonic compounds  
 L8 ANSWER 16 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Sensitive measurement of ozone using amperometric gas sensors  
 L8 ANSWER 17 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Treatment of sludge return water by ozonization and electron beam irradiation  
 L8 ANSWER 18 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI A selective ozone scrubber for application in ambient nitrogen dioxide measurements using the commercial Luminox (LMA-3, Scintrex Unisearch Inc.)  
 L8 ANSWER 19 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Stratospheric NO<sub>2</sub> observations at the Jungfraujoch Station between June 1990 and May 1992  
 L8 ANSWER 20 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Selective catalytic sorbents for NO<sub>x</sub> from combustion flue gas for preprints of the Fuel Chemistry Division, ACS  
 L8 ANSWER 21 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Selective removal of interfering substances for the determination of nitrogen dioxide in air  
 L8 ANSWER 22 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Removal of nitrogen trifluoride from gases containing fluorides and nitrogen oxides  
 L8 ANSWER 23 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Determination of chloride and sulfate in borax-nitrite solution by ion chromatography  
 L8 ANSWER 24 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Study on eliminating the interference of inorganic gases in the iodimetric and rosaniline-colorimetric determination of sulfur dioxide  
 L8 ANSWER 25 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Real-time, in situ measurements of atmospheric optical absorption in the visible via photoacoustic spectroscopy - II. Validation for atmospheric elemental carbon aerosol

L8 ANSWER 26 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI An intercomparison of results from ferrous sulfate and photolytic converter techniques for measurements of nitrogen oxides (NO<sub>x</sub>) made during the NASA GTE/CITE 1 aircraft program

L8 ANSWER 27 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Chemiluminescence method for the direct determination of sulfur dioxide

L8 ANSWER 28 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Molybdenum carbide as catalyst for conversion of nitrogen dioxide to nitric oxide

L8 ANSWER 29 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Derivative spectrophotometric determination of chromium and manganese in chromium steels

L8 ANSWER 30 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Determination of nitrogen dioxide by gas chromatography with electron capture detector

L8 ANSWER 31 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Development of a manganese dioxide-coated, cylindrical denuder for removing nitrogen dioxide from atmospheric samples

L8 ANSWER 32 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Sequential atomic absorption spectrometric determination of nitrate and nitrite in meats by liquid-liquid extraction in a flow-injection system

L8 ANSWER 33 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Qualitative elemental analysis of thyroidin

L8 ANSWER 34 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Effect of surfactants on the determination of nitrate in stream waters by using a nitrate ion-selective electrode

L8 ANSWER 35 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Determination of nitrite in aqueous solution with Orion nitrogen oxide electrode

L8 ANSWER 36 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Development of a potassium iodide annular denuder for nitrogen oxide (NO<sub>2</sub>) collection

L8 ANSWER 37 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Toxicity and spectrophotometric determination of sulfur dioxide in air using a new absorbing agent

L8 ANSWER 38 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Measurements of nitrogen oxides at ppt levels by chemiluminescence with ozone

L8 ANSWER 39 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Preparation of a low-temperature converter used in nitrogen oxide (NO<sub>x</sub>) chemiluminescence

L8 ANSWER 40 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Separation and direct chemical determination of nitrosamines by high performance liquid chromatography (HPLC)

L8 ANSWER 41 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Toxicology of sulfur dioxide and its spectrophotometric determination in air using a new absorbing agent

L8 ANSWER 42 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN

TI Testing a nitrate-selective electrode CRYTUR and its use in determining nitrates in wastewater  
 L8 ANSWER 43 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN

TI Conductometric sensor for atmospheric carbon dioxide determination  
 L8 ANSWER 44 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN

TI Determination of trace nitrite by gas chromatography  
 L8 ANSWER 45 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN

TI Structural effects on the microbial diazotization of anilines  
 L8 ANSWER 46 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN

TI An apparatus for determination of ammonia in flue gases  
 L8 ANSWER 47 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN

TI Analytical problems related to nitrates and nitrites in curing salts used in meat products  
 L8 ANSWER 48 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN

TI Determination of fluorides in atmosphere. II. Spectrophotometric and potentiometric determinations in the presence of some interfering substances  
 L8 ANSWER 49 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN

TI Gas-analyzing apparatus  
 L8 ANSWER 50 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN

TI Gas-analyzing apparatus  
 L8 ANSWER 51 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN

TI The determination of nitrate and nitrite in soil extracts by ultraviolet spectrophotometry  
 L8 ANSWER 52 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN

TI Environmental effects of chlorate discharge  
 L8 ANSWER 53 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN

TI Gas chromatographic determination of nitric oxide at sub-ppm levels  
 L8 ANSWER 54 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN

TI Modification of a continuous analyzer of formaldehyde in ambient air  
 L8 ANSWER 55 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN

TI Determination of ammonia in gases  
 L8 ANSWER 56 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN

TI Treatment of night soil effluent  
 L8 ANSWER 57 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN

TI Nitrogen oxides (NO<sub>x</sub>) (= nitrogen oxide (NO) + nitrogen dioxide) monitor based on an hydrogen-atom direct chemiluminescence method  
 L8 ANSWER 58 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN

TI Quantitative conversion of nitrogen dioxide into nitrogen monoxide  
 L8 ANSWER 59 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN

TI Automated nitrocellulose analysis  
 L8 ANSWER 60 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN

TI Hygienic chemical studies on air pollutants. I. Determination of sulfur dioxide in air by use of triethanolamine solution as an absorbent  
 L8 ANSWER 61 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN

TI Spectrophotometric determination of urea in waste water  
 L8 ANSWER 62 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN



TI Filter substance for the reduction and chemical binding of gas components in a gas mixture  
 L8 ANSWER 63 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Interferences in chemiluminescent measurement of nitric oxide and nitrogen dioxide emissions from combustion systems  
 L8 ANSWER 64 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Spectrophotometric determination of nitrate in water in the microgram-per-liter range  
 L8 ANSWER 65 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Interferences in the determination of nitrogen dioxide in a chemiluminescent analyzer  
 L8 ANSWER 66 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Some considerations in determining oxides of nitrogen in stack gases by chemiluminescence analyzer  
 L8 ANSWER 67 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI A new electrochemical analyzer for nitric oxide and nitrogen dioxide  
 L8 ANSWER 68 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Interferences in the chemiluminescent measurement of nitric oxide and nitrogen dioxide emissions from combustion systems  
 L8 ANSWER 69 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Spectrophotometric determination of nitrogen oxides in metallurgical waste gases  
 L8 ANSWER 70 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Hydrogen interference in chemiluminescent nitrogen oxide (NO<sub>x</sub>) analysis  
 L8 ANSWER 71 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Comparison of instrumental methods for monitoring of nitrogen dioxide  
 L8 ANSWER 72 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Spectrophotometric determination of nitrate with brucine  
 L8 ANSWER 73 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Spectrophotometric determination of nitrate with brucine  
 L8 ANSWER 74 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Evaluation of the measurement of oxides of nitrogen in combustion products by the chemiluminescence method  
 L8 ANSWER 75 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Response of commercial chemiluminescent nitric oxide-nitrogen dioxide analyzers to other nitrogen-containing compounds  
 L8 ANSWER 76 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Converter of nitrogen dioxide to nitric oxide  
 L8 ANSWER 77 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Analytical method for nitrogen oxides. V. Determination of nitrogen oxides by thermo-detection liquid chromatography  
 L8 ANSWER 78 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Tentative method for calibration of continuous colorimetric analyzers for atmospheric nitrogen dioxide and nitric oxide  
 L8 ANSWER 79 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Oxidation of thallium  
 L8 ANSWER 80 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN

TI Application of a chemiluminescence detector for the measurement of total oxides of nitrogen and ammonia in the atmosphere  
 L8 ANSWER 81 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Tentative method of analysis for nitric oxide content of the atmosphere  
 L8 ANSWER 82 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Determination of nitrogenous functional groups in organic compounds  
 L8 ANSWER 83 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Determination of manganese(II) in the presence of vanadium(V) and chromium(VI)  
 L8 ANSWER 84 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Amperometric determination of vanadium in steels, slags, and ferrovanadium  
 L8 ANSWER 85 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Extraction and photometric determination of thallium with methylene blue and methylene green  
 L8 ANSWER 86 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Amperometric determination of potassium by means of two indicator electrodes  
 L8 ANSWER 87 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Polarographic behavior of metal 8-hydroxyquinolates in toluene and extraction and polarographic determination of copper  
 L8 ANSWER 88 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Gravimetric determination of nitrate in natural waters by the nitron method  
 L8 ANSWER 89 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Determination of nitrogen oxides in the atmosphere  
 L8 ANSWER 90 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Potentiometric titration of fluoride with tetraphenyl-antimony sulfate  
 L8 ANSWER 91 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Nitrite-methemoglobin complex. Significance in methemoglobin analyses and its possible role in methemoglobinemia  
 L8 ANSWER 92 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Gas analysis  
 L8 ANSWER 93 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Selected methods for the measurement of air pollutants. Determination of NO<sub>2</sub> and NO  
 L8 ANSWER 94 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Colorimetric determination of pentachlorophenol with o-toluidine  
 L8 ANSWER 95 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Spectrophotometric determination of nitrite as 4-nitroso-2,6-xyleneol  
 L8 ANSWER 96 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Nitrogen dioxide detection using a coulometric method  
 L8 ANSWER 97 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI II  
 L8 ANSWER 98 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Detection of the arsenate ion  
 L8 ANSWER 99 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Colorimetric determination of nitrate with 3,4-xyleneol  
 L8 ANSWER 100 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Determination of 2-nitropropane and of nitrite in mixtures

L8 ANSWER 101 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Differential colorimetric determination of nitrite and nitrate ions  
 L8 ANSWER 102 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Ultraviolet determination of nitrogen dioxide as nitrate ion  
 L8 ANSWER 103 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Microdetermination of ozone in smog mixtures: nitrogen dioxide equivalent method  
 L8 ANSWER 104 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Indirect determination of antimony combined with methylene blue by titanometry  
 L8 ANSWER 105 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Gravimetric determination of cobalt in the presence of nickel and other elements  
 L8 ANSWER 106 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Colorimetric determination of p-aminosalicylic acid  
 L8 ANSWER 107 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI A new method for the colorimetric estimation of amino acids on paper chromatograms  
 L8 ANSWER 108 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Microchemical detection of nitrites and nitrates  
 L8 ANSWER 109 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Rapid volumetric determination of manganese in steels, cobalt alloys, iron-cobalt, and in metallic cobalt, by the persulfate-arsenite method  
 L8 ANSWER 110 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Microtechnique for detecting bromine in simple or mixed solutions. A systematic separation test. A modified Denig'es-Chelle test  
 L8 ANSWER 111 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Determination of the oxides of nitrogen in air  
 L8 ANSWER 112 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Observations regarding break-point chlorination  
 L8 ANSWER 113 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Photometric determination of copper in iron, steel and alloy steels  
 L8 ANSWER 114 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Comparison of colorimetric methods for the determination of nicotinic acid  
 L8 ANSWER 115 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI The quantitative determination of reduction products of free nitric acid solutions: namely nitrogen peroxide, nitric oxide, nitrous oxide, nitrous acid and salts of hydroxylamine, hydrazine and ammonia  
 L8 ANSWER 116 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Methods for the estimation of aromatic hydrocarbons in petroleum mixtures  
  
 L8 ANSWER 3 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN  
 ACCESSION NUMBER: 2002:854850 CAPLUS  
 DOCUMENT NUMBER: 138:44230  
 TITLE: Study of removal reagents for interference of nitrite on the dissolved oxygen determination  
 AUTHOR(S): Nakamura, Eiko; Mashiyama, Junko  
 CORPORATE SOURCE: Fac. Educ. Human Sci., Yokohama Natl. Univ., Yokohama, 240-8501, Japan

SOURCE: Kogyo Yosui (2002), 529, 32-34

CODEN: KOYOAW; ISSN: 0454-1545

PUBLISHER: Nippon Kogyo Yosui Kyokai

DOCUMENT TYPE: Journal

LANGUAGE: Japanese

AB Na azide used for removal of interfering NO<sub>2</sub>- in the dissolved oxygen (DO) detn. was examd. to be replaced with Na sulfanilate, to show a good alternative. An addn. of 2 mL of the mixed soln. of Na sulfanilate (200 g/L) and MnSO<sub>4</sub> (240 g/L) to 100 mL of water sample gave a good result for the DO detn. An example of application of this method to the actual sample of pond water is presented.

L8 ANSWER 31 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1986:465480 CAPLUS

DOCUMENT NUMBER: 105:65480

TITLE: Development of a manganese dioxide-coated, cylindrical denuder for removing nitrogen dioxide from atmospheric samples

AUTHOR(S): Adams, K. M.; Japar, S. M.; Pierson, W. R.

CORPORATE SOURCE: Ford Motor Co., Dearborn, MI, 48121, USA

SOURCE: Atmospheric Environment (1967-1989) (1986), 20(6), 1211-15

CODEN: ATENBP; ISSN: 0004-6981

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A cylindrical denuder coated with activated MnO<sub>2</sub> was very effective in the removal of NO<sub>2</sub> from a feed gas of NO<sub>2</sub> in air at ambient temp. and pressure. The strong oxidizing properties, along with the hydrated surface of the activated MnO<sub>2</sub> are important for the sorption of NO<sub>2</sub>. Detn. of denuder sorption efficiency indicates that activated MnO<sub>2</sub> is nearly a perfect sorbent for NO<sub>2</sub>. The diffusion coeff. of NO<sub>2</sub> in air is 10.8 ± 0.3 cm<sup>2</sup>/min at 22-23.degree., close to a theor. est. Although MnO<sub>2</sub> (coated denuders adsorb also SO<sub>2</sub>, interference from this effect does not impair NO<sub>2</sub> sorption.

L8 ANSWER 51 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1981:405631 CAPLUS

DOCUMENT NUMBER: 95:5631

TITLE: The determination of nitrate and nitrite in soil extracts by ultraviolet spectrophotometry

AUTHOR(S): Norman, R. J.; Stucki, J. W.

CORPORATE SOURCE: Dep. Agron., Univ. Illinois, Urbana, IL, 61801, USA

SOURCE: Soil Science Society of America Journal (1981), 45(2), 347-53

CODEN: SSSJD4; ISSN: 0361-5995.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB An UV spectrophotometric difference method for quant. assay of soil exts. for NO<sub>3</sub>- and NO<sub>2</sub>- is described. The method is reliable in the presence of org. matter and other non-nitrate species that interfere with NO<sub>3</sub>- detns. NO<sub>3</sub>- was detd. by 1st measuring the total absorbance of the soil ext. soln. at 210 nm, which arises from the presence of both NO<sub>3</sub>- and non-nitrate species. The absorbance of the non-nitrate species

was detd. after reducing NO<sub>3</sub><sup>-</sup> to nonabsorbing species using Raney Ni catalyst in acid medium. The absorbance difference was attributed to NO<sub>3</sub><sup>-</sup> alone and was proportional to its concn. If NO<sub>2</sub><sup>-</sup> is present in the original soil ext., both NO<sub>3</sub><sup>-</sup> and NO<sub>2</sub><sup>-</sup> are measured sep. by incorporating an addnl. step into the procedure, which selectively removes NO<sub>2</sub><sup>-</sup> with sulfamic acid. Soil NO<sub>3</sub><sup>-</sup> detd. by this method on exts. from 9 Illinois soils were correlated with results obtained by steam distn. Correlation with results from a direct UV method was poorer. Recovery of std. addns. of NO<sub>3</sub><sup>-</sup> and NO<sub>2</sub><sup>-</sup> were 99 and 98.5%, resp. The min. detectable concns. in the soil samples are 0.45 .mu.g NO<sub>3</sub><sup>-</sup>/g of soil and 0.64 .mu.g NO<sub>2</sub><sup>-</sup>/g of soil, with the linear ranges extending to 100 and 140 .mu.g/g of soil, resp. In the absence of NO<sub>2</sub><sup>-</sup>, 50 samples were analyzed in 3 h with relative std. deviations (rsd) at the 99% confidence interval (CI) of 0.68, 1.2, and 6% for 15-100, 5-15, and 1-5 .mu.g NO<sub>3</sub><sup>-</sup>/g of soil. When samples were also assayed for NO<sub>2</sub><sup>-</sup>, the time was extended to 4 h for 50 samples with rsd at the 99% CI of 0.71, 1.4, and 10% for 15-100, 5-15, 1-5 .mu.g NO<sub>3</sub><sup>-</sup>/g of soil.

L8 ANSWER 56 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1980:453284 CAPLUS

DOCUMENT NUMBER: 93:53284

TITLE: Treatment of night soil effluent

INVENTOR(S): Sawa, Toshio; Adachi, Tetsuro; Kubota, Shoji; Takahashi, Sankichi; Ikemoto, Tokuo

PATENT ASSIGNEE(S): Hitachi, Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

PATENT NO. KIND DATE APPLICATION NO. DATE

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JP 55013116 A2 19800130 JP 1978-85175 19780714

JP 60036835 B4 19850822

PRIORITY APPLN. INFO.: JP 1978-85175 19780714

AB In a night soil electrolysis, the floating matter is skimmed off, then the effluent is passed through an activated C layer under d.c. field to adsorb NO<sub>2</sub> and org. matter, then decolorized and sterilized by ozonization. The method improves the ozonization by removing the interfering NO<sub>2</sub><sup>-</sup> and the org. matter. Thus, a night soil effluent was passed downward through an activated C column contg. electrodes and an O<sub>3</sub> nozzle at the bottom of the column. NO<sub>2</sub><sup>-</sup> and color removal were .apprx.100 and .apprx.80%, resp., at 6000 coulomb/L and 50 ppm O<sub>3</sub>.

L8 ANSWER 56 OF 116 CAPLUS COPYRIGHT 2003 ACS on STN

AB . . . d.c. field to adsorb NO<sub>2</sub> and org. matter, then decolorized and sterilized by ozonization. The method improves the ozonization by removing the interfering NO<sub>2</sub><sup>-</sup> and the org. matter. Thus, a night soil effluent was passed downward through an activated C column contg. electrodes and an O<sub>3</sub> nozzle at the bottom of the column. NO<sub>2</sub><sup>-</sup> and color removal were .apprx.100 and .apprx.80%, resp., at 6000 coulomb/L and 50 ppm O<sub>3</sub>.

L5 ANSWER 56 OF 89 CAPLUS COPYRIGHT 2003 ACS on STN  
ACCESSION NUMBER: 1995:221159 CAPLUS  
DOCUMENT NUMBER: 122:37753  
TITLE: Removal of NO<sub>x</sub> by absorption with molybdenum blue solution  
AUTHOR(S): Zhao, Youcai; Xi, Dimin; Chen, Shaowei; Li, Guojian  
CORPORATE SOURCE: School Environmental Engineering, Tongji University,  
Shanghai, 200092, Peop. Rep. China  
SOURCE: China Environmental Science (1994), 5(3), 246-57  
CODEN: CEVSEB; ISSN: 1003-1189  
DOCUMENT TYPE: Journal

LANGUAGE: English

AB The selective removal of NO<sub>2</sub> and NO<sub>x</sub> from gas streams was investigated using molybdenum blue soln. which can be prep'd. readily by the reaction of yellow 12-molybdosilicic acid soln. and various reductants (for example, reduced-Fe powder, ascorbic acid, and FeSO<sub>4</sub>). The influence of different variables such as gas streams flowrate (or residence time), no. of absorption stages, acidity of molybdenum blue soln., and temp. was studied. NO<sub>2</sub> removal was >95% with 1-stage absorption and >99% with 3-stage absorption with soln. of >0.1 mol/dm<sup>3</sup> H<sub>2</sub>SO<sub>4</sub> regardless of the reductants used and temp. The removal of NO<sub>x</sub> was similar to that of NO<sub>2</sub>; the NO<sub>x</sub> removal was 90% with 1-stage absorption and >93% with 3-stage absorption at soln. acidity of >0.1 mol/dm<sup>3</sup> H<sub>2</sub>SO<sub>4</sub> and a residence time of 23 s regardless of reductants used, temp., and NO<sub>x</sub> concn. in flue gas stream; the absorption rate increased with the increase of residence time. The predominant product of the absorption was N<sub>2</sub>. Molybdosilicic acid and the reductants selected in this work were inexpensive, com. available, easily reused, nontoxic and nonharmful to environment, and no secondary pollution may be arised in the processes developed. The NO<sub>x</sub> redn. mechanism was discussed and the molar ratios of NO<sub>2</sub> or NO<sub>x</sub> removed and reductants consumed was detd. One mole of reduced-Fe powder or ascorbic acid can absorbed as high as 8 or 13 mol of NO<sub>x</sub> resp

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L9 ANSWER 1 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN

TI Method and system for monitoring combustion source emissions

L9 ANSWER 2 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN

TI Method and apparatus for preventing nitrogen interference in pyro-electrochemical methods

L9 ANSWER 3 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN

TI Surface ozone and precursor gases at Gadanki (13.5.degree.N, 79.2.degree.E), a tropical rural site in India

L9 ANSWER 4 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN

TI Apparatus and process for treatment of internal combustion engine exhaust gases

L9 ANSWER 5 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN

TI Methods for reducing NO<sub>x</sub> in combustion flue gas using metal-containing additives

L9 ANSWER 6 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN

TI Selective detection of NH<sub>3</sub> over NO in combustion exhausts by using Au and MoO<sub>3</sub> doubly promoted WO<sub>3</sub> element

L9 ANSWER 7 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Production of nitric monoxide using pulsed discharges for a medical application  
 L9 ANSWER 8 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Hypofluorite gas for removal of deposits by solid-gas reaction in cleaning or etching  
 L9 ANSWER 9 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Removal of nitrogen oxides produced during waste incineration: operation of a full-scale DeNOx system  
 L9 ANSWER 10 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Apparatus and boiler flue gas denitration  
 L9 ANSWER 11 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Apparatus for decomposition of ammonia in waste gases  
 L9 ANSWER 12 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Process and device for catalytic purification of diesel exhaust and exhaust gases  
 L9 ANSWER 13 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Apparatus for reduction of nitrogen oxides in polluted air or flue gases by chemiluminescence  
 L9 ANSWER 14 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Catalysts and process for removal of nitrogen oxides from waste gases containing excess amount of oxygen  
 L9 ANSWER 15 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Catalysts and process for removal of nitrogen oxides from waste gases containing excess amount of oxygen  
 L9 ANSWER 16 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Removal of nitrogen oxide by using adsorption apparatus  
 L9 ANSWER 17 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Investigation of catalytic reduction and filter techniques for simultaneous measurements of NO, NO<sub>2</sub> and HNO<sub>3</sub>  
 L9 ANSWER 18 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Removal of NO<sub>x</sub> by absorption with molybdenum blue solution  
 L9 ANSWER 19 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Catalytic removal of oxygen, nitrites and/or nitrates from water using hydrogen  
 L9 ANSWER 20 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Simultaneous reduction of NO<sub>x</sub> and SO<sub>2</sub> by selective catalytic oxidation  
 L9 ANSWER 21 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Removal of nitrous oxide from waste gases by decomposition  
 L9 ANSWER 22 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Regeneration of adsorbents for waste gas treatment  
 L9 ANSWER 23 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Removal of inorganic and organic pollutants from gases by adsorption filtration  
 L9 ANSWER 24 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Pyrolytic combustion installation for textile wastes with energy recovery  
 L9 ANSWER 25 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Manufacture of catalysts for removal of acetylene and nitric oxide from coke-oven gases  
 L9 ANSWER 26 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Molybdenum carbide as catalyst for conversion of nitrogen dioxide to nitric oxide

L9 ANSWER 27 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Removal of sulfur and/or nitrogen oxides from gases  
 L9 ANSWER 28 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Titanium oxide filament support catalyst for exhaust gas purging  
 L9 ANSWER 29 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Removal of nitrogen oxides from waste gases  
 L9 ANSWER 30 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI New method of calibration in atomic absorption spectrometry using a single standard for steel analysis  
 L9 ANSWER 31 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Standard mixtures of nitric oxide  
 L9 ANSWER 32 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Determination of nitrogen oxides and ammonia in gas mixtures  
 L9 ANSWER 33 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Electrical cell using waste industrial gas and scrap iron  
 L9 ANSWER 34 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Selective elimination of nitrogen oxides in oxygenated gaseous mixtures  
 L9 ANSWER 35 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI II  
 L9 ANSWER 36 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Elimination of oxides of nitrogen from automobile exhaust  
 L9 ANSWER 37 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Determination and separation of rare metals from other metals. X. Three new gravimetric determinations of beryllium and separations based upon these reactions  
 L9 ANSWER 38 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN  
 TI Gravimetric estimation of tungsten, chromium, silicon, nickel, molybdenum and vanadium in steels

L9 ANSWER 4 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2001:654824 CAPLUS

DOCUMENT NUMBER: 135:215199

TITLE: Apparatus and process for treatment of internal combustion engine exhaust gases

INVENTOR(S): Arasawa, Motohiro; Akama, Hiroshi; Kitahara, Yasuhisa

PATENT ASSIGNEE(S): Nissan Motor Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 25 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

PATENT NO. KIND DATE APPLICATION NO. DATE

JP 2001241321 A2 20010907 JP 2000-52825 20000229

PRIORITY APPLN. INFO.: JP 2000-52825 20000229

AB The app. contains oxidn. catalysts for oxidn. of NO in exhaust gases into . NO<sub>2</sub>, adsorbents for adsorption and desorption of reducing components in the exhaust gases, filters placed at the downstream side of the oxidn. catalysts for collecting particulates and



allowing them to react with NO<sub>2</sub> in the exhaust gases, and catalysts placed at the downstream side of the filters for collection of NO<sub>x</sub> when the reducing component concns. in the exhaust gases are low and for release and redn. of NO<sub>x</sub> when the reducing component concns. are high. In the treatment process, particulate matter collected with the particulate filters is removed with NO<sub>2</sub> formed by the oxidn. catalysts. The app. and process are useful for efficient removal of NO<sub>x</sub> and particulate matter under oxidizing atm. of diesel engines.

L9 ANSWER 5 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2001:167867 CAPLUS

DOCUMENT NUMBER: 134:197426

TITLE: Methods for reducing NO<sub>x</sub> in combustion flue gas using metal-containing additives

INVENTOR(S): Zamansky, Vladimir M.; Maly, Peter M.; Cole, Jerald A.; Lissianski, Vitali V.; Seeker, William Randall

PATENT ASSIGNEE(S): GE Energy and Environmental Research Corporation, USA

SOURCE: PCT Int. Appl., 49 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

PATENT NO. KIND DATE APPLICATION NO. DATE

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WO 2001015796 A1 20010308 WO 2000-US21207 20000803

US 6206685 B1 20010327 US 1999-387631 19990831

EP 1224025 A1 20020724 EP 2000-950965 20000803

US 6471506 B1 20021029 US 2000-707123 20001106

PRIORITY APPLN. INFO.: US 1999-387631 A 19990831

WO 2000-US21207 W 20000803

AB Various methods for decreasing the amt. of nitrogen oxides released to the atm. as a component of combustion gas mixts. are provided. The methods specifically provide for the removal of nitric oxide and nitrogen dioxide (NO<sub>x</sub>) from gas mixts. emitted from stationary combustion systems. In particular, methods for improving efficiency of nitrogen oxide redn. from combustion systems include injecting metal-contg. compds. into the main combustion zone and/or the reburning zone of a combustion system. The metal-contg. compds. react with active combustion species, and these reactions change radical concns. and significantly improve NO<sub>x</sub> conversion to mol. nitrogen. The metal-contg. additives can be injected with the main fuel, in the main combustion zone, with secondary or reburning fuel addn. or at several locations in the main combustion zone and reburning zone. Optionally, nitrogenous reducing agents and/or overfire air can be injected downstream to further increase NO<sub>x</sub> redn. REFERENCE COUNT: 10

L9 ANSWER 14 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1996:95554 CAPLUS

DOCUMENT NUMBER: 124:154432

TITLE: Catalysts and process for removal of nitrogen oxides from waste gases containing excess amount of oxygen

INVENTOR(S): Myadera, Tatsuo; Yoshida, Kyohide  
PATENT ASSIGNEE(S): Kogyo Gijutsuin, Japan; Riken Kk  
SOURCE: Jpn. Kokai Tokkyo Koho; 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

PATENT NO. KIND DATE APPLICATION NO. DATE

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JP 07313886 A2 19951205 JP 1994-132587 19940523

PRIORITY APPLN. INFO.: JP 1994-132587 19940523

AB In removal of NO<sub>x</sub> from combustion waste gases contg. NO<sub>x</sub> and >A (A = theor. amt. to react with coexisting unburned components) of O, the catalysts consist of (1) porous inorg. oxides supporting 0.2-15% (as elements) Al, Sn, and/or In and/or their oxides and (2) porous inorg. oxides supporting 0.2-50% (as elements) W, V, Mn, Mo, Nb, Ta, Fe, and/or Cu oxides, sulfates, and/or oxysulfates, and the process comprises placing the catalysts on the way of pipes for waste gases, adding hydrocarbons and/or C.g.toreq.2 O-contg. org. compds. or their mixts. with fuels to waste gases in upper stream of the catalysts, and contacting the waste gases with the catalysts at 150-600.degree.. The catalysts and the process are suitable for exhaust gases from automotive engines and waste gases from industrial and household combustion devices.

L9 ANSWER 15 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1996:95553 CAPLUS

DOCUMENT NUMBER: 124:154431

TITLE: Catalysts and process for removal of nitrogen oxides from waste gases containing excess amount of oxygen

INVENTOR(S): Myadera, Tatsuo; Saito, Mika; Yoshida, Kyohide

PATENT ASSIGNEE(S): Kogyo Gijutsuin, Japan; Riken Kk

SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

PATENT NO. KIND DATE APPLICATION NO. DATE

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JP 07313885 A2 19951205 JP 1994-132576 19940523

PRIORITY APPLN. INFO.: JP 1994-132576 19940523

AB In removal of NO<sub>x</sub> from combustion waste gases contg. NO<sub>x</sub> and >A (A = theor. amt. to react with coexisting unburned components) of O and also oxidn.-removal of residual and unreacted CO, hydrocarbons, etc., the catalysts consist of (1) porous inorg. oxides supporting 0.2-15% (as elements) Al, Sn, and/or In and/or their oxides and (2) porous inorg. oxides supporting 0.2-50% (as elements) W, V, Mn, Mo, Nb, Ta, Fe, and/or Cu oxides, sulfates, and/or oxysulfates and 0.05-5% (based on the porous inorg. oxides) Pt, Pd, Ru, Rh, Ir, and/or Au, and the process comprises placing the catalysts on the way of pipes for waste gases, adding hydrocarbons and/or C.g.toreq.2 O-contg. org. compds. or their mixts. with fuels to waste gases in upper stream of the catalysts, and contacting

the waste gases with the catalysts at 150-600.degree.. The catalysts and the process are suitable for exhaust gases from automotive engines and waste gases from industrial and household combustion devices.

L9 ANSWER 16 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1995:808451 CAPLUS

DOCUMENT NUMBER: 123:207687

TITLE: Removal of nitrogen oxide by using adsorption apparatus

INVENTOR(S): Horii, Juji

PATENT ASSIGNEE(S): Kobe Steel Ltd, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

PATENT NO. KIND DATE APPLICATION NO. DATE

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JP 07178316 A2 19950718 JP 1993-327996 19931224

PRIORITY APPLN. INFO.: JP 1993-327996 19931224

AB The process comprises feeding gases at .ltoreq.50.degree. to the app. filled with carbonaceous adsorbents contg. oxides of V, Mo, and/or W or compds., forming the oxides by pyrolysis, removing NO<sub>x</sub> from the gases by adsorption at .ltoreq.50.degree., feeding regeneration gases to the app. and heating the app. at 100-200.degree., desorbing the adsorbed NO<sub>x</sub>, discharging the NO<sub>x</sub> with the regeneration gases from the app., cooling the app. to the adsorption temp., and repeating the above unit operations. The process is suitable for efficient removal of low-concn. NO<sub>x</sub> from air, esp., exhaust gases in tunnels, indoor parking lots, etc.

L9 ANSWER 18 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1995:221159 CAPLUS

DOCUMENT NUMBER: 122:37753

TITLE: Removal of NO<sub>x</sub> by absorption with molybdenum blue solution

AUTHOR(S): Zhao, Youcai; Xi, Dimin; Chen, Shaowei; Li, Guojian

CORPORATE SOURCE: School Environmental Engineering, Tongji University,  
Shanghai, 200092, Peop. Rep. China

SOURCE: China Environmental Science (1994), 5(3), 246-57

CODEN: CEVSEB; ISSN: 1003-1189

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The selective removal of NO<sub>2</sub> and NO<sub>x</sub> from gas streams was investigated using molybdenum blue soln. which can be prepd. readily by the reaction of yellow 12-molybdosilicic acid soln. and various reductants (for example, reduced-Fe powder, ascorbic acid, and FeSO<sub>4</sub>). The influence of different variables such as gas streams flowrate (or residence time), no. of absorption stages, acidity of molybdenum blue soln., and temp. was studied. NO<sub>2</sub> removal was >95% with 1-stage absorption and >99% with 3-stage absorption with soln. of >0.1 mol/dm<sup>3</sup> H<sub>2</sub>SO<sub>4</sub> regardless of the reductants used

and temp. The removal of NO<sub>x</sub> was similar to that of NO<sub>2</sub>; the NO<sub>x</sub> removal was 90% with 1-stage absorption and >93% with 3-stage absorption at soln. acidity of >0.1 mol/dm<sup>3</sup> H<sub>2</sub>SO<sub>4</sub> and a residence time of 23 s regardless of reductants used, temp., and NO<sub>x</sub> concn. in flue gas stream; the absorption rate increased with the increase of residence time. The predominant product of the absorption was N<sub>2</sub>. Molybdosilicic acid and the reductants selected in this work were inexpensive, com. available, easily reused, nontoxic and nonharmful to environment, and no secondary pollution may be arised in the processes developed. The NO<sub>x</sub> redn. mechanism was discussed and the molar ratios of NO<sub>2</sub> or NO<sub>x</sub> removed and reductants consumed was detd. One mole of reduced-Fe powder or ascorbic acid can absorbed as high as 8 or 13 mol of NO<sub>x</sub> resp.

L9 ANSWER 20 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1994:464444 CAPLUS

DOCUMENT NUMBER: 121:64444

TITLE: Simultaneous reduction of NO<sub>x</sub> and SO<sub>2</sub> by selective catalytic oxidation

AUTHOR(S): Yuan, G.; Liu, J. Y.; Li, K. Y.

CORPORATE SOURCE: Inst. Chem., Acad. Sin., Beijing, Peop. Rep. China

SOURCE: Chemical Oxidation (1994), Volume Date 1993, 3, 165-71

CODEN: CHOSEC; ISSN: 1072-2459

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The People's Republic of China had launched a strict waste gas emission std. to reduce the emission of NO<sub>x</sub> and SO<sub>2</sub>. The problem with the NO<sub>x</sub> redn. in the wet scrubbing system is due to a low soly. of NO in aq. soln. This problem of NO<sub>x</sub> redn. may be circumvented by a selective catalytic oxidn. of NO to NO<sub>2</sub>. Usually the catalytic oxidn. of NO will be hindered at the presence of SO<sub>2</sub>. Preliminary results indicated that >90% of NO can be converted to NO<sub>2</sub> at the exptl. conditions.

L9 ANSWER 26 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1987:218806 CAPLUS

DOCUMENT NUMBER: 106:218806

TITLE: Molybdenum carbide as catalyst for conversion of nitrogen dioxide to nitric oxide

AUTHOR(S): Liu, Changlin

CORPORATE SOURCE: Beijing Polytech. Univ., Beijing, Peop. Rep. China

SOURCE: Huanjing Huaxue (1986), 5(6), 30-3

CODEN: HUHADB; ISSN: 0254-6108

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

AB A Mo<sub>2</sub>C-contg. catalyst quant. converted NO<sub>2</sub> to NO in air at 150.degree.; the presence of .gtoreq.3 mg/m<sup>3</sup> NH<sub>3</sub> did not interfere in the conversion. The catalyst activity remained const. for 2000 h in a test.

L9 ANSWER 27 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1987:125298 CAPLUS

DOCUMENT NUMBER: 106:125298

TITLE: Removal of sulfur and/or nitrogen oxides from gases  
INVENTOR(S): Peter, Siegfried; Haertel, Georg  
PATENT ASSIGNEE(S): Fed. Rep. Ger.  
SOURCE: Ger. Offen., 6 pp.  
CODEN: GWXXBX  
DOCUMENT TYPE: Patent  
LANGUAGE: German

PATENT NO. KIND DATE APPLICATION NO. DATE

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DE 3525871 A1 19870122 DE 1985-3525871 19850719  
EP 214407 A2 19870318 EP 1986-109646 19860714  
EP 214407 A3 19870624  
JP 62065720 A2 19870325 JP 1986-163929 19860714  
PRIORITY APPLN. INFO.: DE 1985-3525241 19850715  
DE 1985-3525871 19850719

AB SO<sub>x</sub> and NO<sub>x</sub> are efficiently removed from waste gases at low temps. by catalytic conversion using COS, CS<sub>2</sub>, and/or H<sub>2</sub>S as reductants and Sc, Y, lanthanide, or actinide catalysts supported on alumina, ceramics, or expanded clays. The removals are stoichiometric and the liq. S product obtained is easy to handle. Al<sub>2</sub>O<sub>3</sub> 1 kg shaped into 4 times. 8 mm rods (porosity 0.65) was impregnated by aq. LaCl<sub>3</sub> 10 g, which was pptd. by KOH, and filled into a 80 cm long, 4 cm diam. reactor. A wet N<sub>2</sub> stream at 20.degree. contg. CS<sub>2</sub> 1000, COS 500, and NO 2500 ppm was passed through the reactor at 150 h-l. The mean temp. was 140.degree.. The reactor sump contained liq. S; the effluent gases contained CO<sub>2</sub> 1500 ppm but no S compds. or NO.

L9 ANSWER 28 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1982:74017 CAPLUS

DOCUMENT NUMBER: 96:74017

TITLE: Titanium oxide filament support catalyst for exhaust gas purging

PATENT ASSIGNEE(S): Kyushu Refractories Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

PATENT NO. KIND DATE APPLICATION NO. DATE

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JP 56147632 A2 19811116 JP 1980-52705 19800421  
PRIORITY APPLN. INFO.: JP 1980-52705 19800421

AB TiO<sub>2</sub> filament is loaded with .gtoreq.1 of metals and/or metal oxides to form a catalyst for treatment of waste gas. Thus, 2.0 g in 150 mL 2M aq. NH<sub>3</sub> and 9.7 g NH<sub>4</sub>VO<sub>3</sub> in 150 mL 15% H<sub>2</sub>C<sub>2</sub>O<sub>4</sub> were mixed along with 100 g hydrated TiO<sub>2</sub> filament, evapd. to dryness, pelletized, and calcined at 550.degree. for 3 h. The sp. surface area was 0.15, strength 10.2, and denitration 98% when used for waste gas contg.

NH<sub>3</sub> 400, SO<sub>2</sub>, NO<sub>2</sub> 300 ppm each, CO<sub>2</sub>, H<sub>2</sub>O 15, each, 0.3%, and N balance at 300.degree. and space velocity 104/hl.

L9 ANSWER 29 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1981:502501 CAPLUS

DOCUMENT NUMBER: 95:102501

TITLE: Removal of nitrogen oxides from waste gases

PATENT ASSIGNEE(S): Babcock-Hitachi K. K., Japan; Hitachi, Ltd.

SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

PATENT NO. KIND DATE APPLICATION NO. DATE

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JP 56024031 A2 19810307 JP 1979-98712 19790803

JP 62009368 B4 19870227

PRIORITY APPLN. INFO.: JP 1979-98712 19790803

AB NO<sub>x</sub> is removed from waste gases by redn. with NH<sub>3</sub> over a catalyst support that contains 25-96% TiO<sub>2</sub> and 1-72% of .gtoreq.1 of V, W, Cr, Fe, and Cu and is impregnated with 3-30% of MoO<sub>3</sub>. Thus, TiO<sub>2</sub> honeycomb impregnated with 10% MoO<sub>3</sub> (contg. 5 wt.% V<sub>2</sub>O<sub>5</sub>) had a service life of .gtoreq.2000 h and a NO<sub>x</sub>-removal efficiency of .apprx.95% in treatment of a waste gas-NH<sub>3</sub> mixt. contg. 150-250 NH<sub>3</sub>, 150-250 NO<sub>x</sub>, 900-1200 ppm SO<sub>x</sub>, 0.1-1 CO, 3-5 CO<sub>2</sub>, 5-10 vol.% moisture, and 30-50 mg dust (contg. Na and K)/m<sup>3</sup>.

L9 ANSWER 33 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1968:482932 CAPLUS

DOCUMENT NUMBER: 69:82932

TITLE: Electrical cell using waste industrial gas and scrap iron

PATENT ASSIGNEE(S): Deutsche Akademie der Wissenschaften zu Berlin, Ger

SOURCE: Fr., 5 pp.

CODEN: FRXXAK

DOCUMENT TYPE: Patent

LANGUAGE: French

PATENT NO. KIND DATE APPLICATION NO. DATE

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FR 1499389 19671027 FR 19660913

AB Scrap iron and flue gas contg. S and (or) N oxides and (or) C compds. are used in an elec. cell that eliminates noxious components of the waste gases and produces electricity. The galvanic cell uses an anode of scrap iron or of porous carbon impregnated with Al-V and Al-Mo spinel and traces of Pt. The cathode is gas-activated carbon. The cell is divided by a membrane with a high resistance to diffusion. The anolyte is H<sub>2</sub>SO<sub>4</sub> and the anode is fed by flue gas contg. SO<sub>3</sub> and (or) oxidizable C compds. The catholyte is a mixt. of H<sub>2</sub>SO<sub>4</sub> and HNO<sub>3</sub> and the gases contg. N oxides are fed to the cathode. An alternative is a common MgCl<sub>2</sub> electrolyte. Thus, a cell using an electrolyte of 20% aq. MgCl<sub>2</sub> with a C anode and scrap iron cathode is used to convert NO<sub>2</sub> to NO by

transporting the former with air to the cell. The iron is simultaneously converted to Fe hydroxide suitable for use in open hearth furnaces. The cell delivers 0.75 v. at a 25 ma./cm.<sup>2</sup> at room temp.

L9 ANSWER 34 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1966:101549 CAPLUS

DOCUMENT NUMBER: 64:101549

ORIGINAL REFERENCE NO.: 64:19033d-g

TITLE: Selective elimination of nitrogen oxides in oxygenated gaseous mixtures

INVENTOR(S): Nonnenmacher, Helmut; Kartte, Klaus

PATENT ASSIGNEE(S): Badische Anilin- & Soda-Fabrik A.-G.

SOURCE: 11 pp.

DOCUMENT TYPE: Patent

LANGUAGE: Unavailable

PATENT NO. KIND DATE APPLICATION NO. DATE

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BE 655115 19650430 BE

FR 1412713 FR

US 3279884 1966 US

PRIORITY APPLN. INFO.: DE 19631031

AB When HNO<sub>3</sub> is manufd., it is necessary to eliminate the NO and NO<sub>2</sub> produced by the reaction. An improved method using V, Mo, and W oxides as catalysts, eliminates the high consumption of combustibles and the loss of catalyst activity. These oxides are used in combination with Al<sub>2</sub>O<sub>3</sub> or H<sub>2</sub>SiO<sub>3</sub> in a proportion of 2-50 wt. % oxides. By this procedure, a very selective elimination of N oxides is effected, without extg. O<sub>2</sub> at the same time; moreover, the fraction of NO<sub>2</sub> in the gas mixt. has no deleterious effect on the catalysts and hence, does not shorten their lives. The V oxide catalysts are not sensitive to S. The residual gases, which are formed during the prepn. of HNO<sub>3</sub> from NH<sub>3</sub> or generated during nitration procedures, usually contain 0-15 O<sub>2</sub>, 0-2 NO, and 0-2 vol. % NO<sub>2</sub>, the rest being inert gases such as N<sub>2</sub>; the mixts. may also contain up to 5% H<sub>2</sub>O vapor. The quantity of NH<sub>3</sub> desirable for a selective elimination (>90%) of N oxides is 1-1 1/2 times the N oxide content. The gas mixt. contg. NH<sub>3</sub> is passed over the catalyst at a rate of 10,000-30,000 vols./catalyst vol./hr. The gas is introduced at 200-350.degree. and the pressure varies between 1-20 atm. For example, a gas mixt. contg. 96.1 N, 3.5 O, and 0.43% NO, mixed with 0.86% NH<sub>3</sub> (3 times the equiv. of NO) is passed at 200.degree. over a catalyst of 8.9% V<sub>2</sub>O<sub>5</sub>, with H<sub>2</sub>SiO<sub>3</sub> at a rate of 10,000 vols./catalyst vol./hr. The gas leaving the catalyst contains 0.09% N oxides (79% of the oxides eliminated). When the temp. is raised to 270.degree., this is raised to 91.4%. If H<sub>2</sub>SiO<sub>3</sub> only is used, only 16.5% is eliminated.

L9 ANSWER 36 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1960:13367 CAPLUS

DOCUMENT NUMBER: 54:13367

ORIGINAL REFERENCE NO.: 54:2691h-i,2692h-i,2693a-c

TITLE: Elimination of oxides of nitrogen from automobile exhaust

AUTHOR(S): Taylor, Francis R.

CORPORATE SOURCE: Franklin Inst., Philadelphia, PA

SOURCE: Air Pollution Foundation (Los Angeles) Rept. (1959); No. 28, 49 pp.

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB By catalytic reduction, NO was removed from mixts. contg. NO, CO, and (or) H<sub>2</sub>, and a N or He carrier or from automobile exhausts. Cr-Fe oxide, Ba-Cu chromite, Zn-Cu chromite, and Fe chromite catalysts were the most efficient for NO removal; chrome alumina, molybdena, and Cu catalysts were less efficient at 300-300.degree.. Zn-Cu chromite, Fe chromite, and Cu catalysts reduced the hydrocarbon content. Thus, when 4814 ml./min. of a mixt. contg. NO 0.4, CO 6.0, and N 93.6% was passed through a catalyst contg. 8-10% Cr<sub>2</sub>O<sub>3</sub> + Fe<sub>2</sub>O<sub>3</sub>.FeO + Fe<sub>2</sub>O<sub>3</sub> at 228.degree., the NO reduction was 98.5%. The introduction of 19 or 56 ml./min. of O to the stream (19 ml./min.) decreased the conversion to 86.8 and 77.9%, resp. O did not deactivate any of the catalysts. With no catalyst, the introduction of the same amount of O removed 40.4 and 75.8% of the NO, resp., after 30 min. The presence of H<sub>2</sub>O vapor did not decrease the catalyst efficiency, but it did increase the CO<sub>2</sub> yield slightly. NO<sub>2</sub> (220 p.p.m.), found in the exhaust sample (0.17 cu. ft./min.) of a nonleaded premium gasoline, was converted to N by this catalyst at 234.degree.. With Ba-Cu chromite, the introduction of 153 ml./min. of O to 0.375 cu. ft./min. of the mixt. resulted in a 140.degree. rise in catalyst bed temp.; the CO to CO<sub>2</sub> conversion was 77%, and the NO removal was 100%. A mixt. contg. hydrocarbons, O, CO, NO, H<sub>2</sub>, and N was passed over Cu at 492.degree.; the hydrocarbon content was reduced 44% (100% of the unsatd.) and the NO 90%; practically all of the NO<sub>2</sub> formed was removed. Passing the same mixt. through a Zn-Cu chromite at 370.degree., which efficiently reduces NO, reduced the hydrocarbons 97.5% (100% of the unsatd.). The removal of CO and NO with Fe chromite was found to be a function of O concn. Complete removal of CO, hydrocarbons, and NO was obtained with 4, 5.7, and 2.87% O, resp. NO removal was complete as long as there was CO present to reduce it. Once the CO concn. was 12%, the NO removal fell rapidly. The CO was preferentially oxidized; with 2.05% O, the hydrocarbon and CO removal was 4 and 73%, resp. The max. removal (NO 96, CO 96, hydrocarbons 70%) occurred with 3.56% O. Exhaust O content averaged 1.3%, and addnl. O would be necessary for CO and hydrocarbon removal, but not for NO. The exhaust of a premium leaded gasoline with 8.3% O added was passed through Fe chromite at 380.degree.; the hydrocarbon and CO removal was 92% and 100%, resp., and no detectable NO was present.